Page 1

1   UNITED STATES DISTRICT COURT

               NORTHERN DISTRICT OF GEORGIA

2   GAINSVILLE DIVISION

3

4   SANTANA BRYSON AND JOSHUA

     BRYSON, as Administrators

5   of the Estate of C.Z.B.,

     and as surviving parents of

6   C.Z.B., a deceased minor,

7   Plaintiffs,   CASE NO.

8   vs.   2:22-CV-017-RWS

9   ROUGH COUNTRY, LLC,

10   Defendant.

11

12

13   VIDEOTAPE DEPOSITION OF G. BRYANT BUCHNER, P.E.

14   APPEARING REMOTE FROM

15   TALLAHASSEE, FLORIDA

16

17   JANUARY 23, 2024

18   11:13 A.M.

19

20

21   Reported Remotely By:

22   Judith L. Leitz Moran

23   RPR, RSA, CCR-B-2312

24

25

G. Bryant Buchner , P.E.   January 23, 2024
Bryson, Santana and Joshua v. Rough Country, LLC

Page 2

1   REMOTE APPEARANCES OF COUNSEL

2

3   On behalf of the Plaintiffs:

4   TEDRA L. CANNELLA, ESQUIRE

5   DEVIN L. MASHMAN, ESQUIRE

6   CANNELLA SNYDER LLC

7   315 W Ponce de Leon Avenue

8   Suite 885

9   Decatur, Georgia   30030

10

11   On behalf of Defendant:

12   RICHARD H. HILL, ESQUIRE

13   WEINBERG, WHEELER, HUDGINS,

14   GUNN & DIAL, LLC

15   3344 Peachtree Road, N.E.

16   Suite 2400

17   Atlanta, Georgia   30326

18

19   ALSO PRESENT:

20   JONATHAN MILLER, VIRTUAL VIDEO TECHNICIAN

21

22

23

24

25

G. Bryant Buchner , P.E.   January 23, 2024
Bryson, Santana and Joshua v. Rough Country, LLC

                                                        Page 3

 1   I N D E X

 2   EXAMINATION   PAGE

 3   BY MR. HILL   5

 4

 5   E X H I B I T S

 6   (EXHIBITS SUBMITTED ELECTRONICALLY)

 7   EXHIBIT NO.   PAGE

Veritext Legal Solutions
800.808.4958   770.343.9696

Page 4

1   WITNESS APPEARED REMOTELY FROM TALLAHASSEE, FL

2   JANUARY 23, 2024 - 11:13 A.M.

3

4   VIDEO TECHNICIAN: We are on the record

5   January 23rd, 2024, at approximately 11:13 a.m.

6   Eastern Time.

7   This will be the videotape deposition of

8   George Bryant Buchner.

9   Would counsel please identify themselves

10   and who they represent for the record.

11   MR. HILL: Rick Hill --

12   MS. CANNELLA: Tedra Cannella and Devin

13   Mashman for the Plaintiffs.

14   MR. HILL: We spoke over each other

15   there. Did you catch that, Court Reporter?

16   MS. CANNELLA: Oh, sorry. Tedra Cannella

17   and Devin Mashman for the Plaintiffs.

18   MR. HILL: Rick Hill on behalf of the

19   Defendant.

20   VIDEO TECHNICIAN: Would the court

21   reporter please swear in the witness.

22   THE COURT REPORTER: Mr. Buchner, please

23   raise your right hand.

24

25

G. Bryant Buchner , P.E.   January 23, 2024
Bryson, Santana and Joshua v. Rough Country, LLC

Page 5

1   G. BRYANT BUCHNER, P.E.,

2   being first duly sworn, was examined as follows:

3   MR. BUCHNER: Yes, I do.

4   EXAMINATION

5   BY MR. HILL:

6   Q   Thank you, Mr. Buchner. My name is Rick

7   Hill. I think we've met a couple of times in the

8   past. It's good to see you again.

9   A   Thank you.

10   Q   I wanted to start just by identifying,

11   since I'm not there, what you may have brought with

12   you to the deposition.

13   I know you provided file material to

14   counsel for the Plaintiffs which have been provided

15   to us prior to the deposition.

16   Did you bring everything that you had

17   previously produced to the Plaintiff's counsel with

18   you today to the deposition?

19   A   Yes.

20   Q   Okay. And do you have it in electronic

21   format or do you have it in paper format?

22   A   Yes, I have some of it in paper format.

23   All of it in electronic format to the best of my

24   abilities. Every now and then things get crossed.

25   But, yeah, most of it's -- I should have everything

Page 6

1   in electronic.

2   Q   Sure. One of the things that I don't

3   believe we have is the actual digital electronic

4   version of the HVE case file.

5   Have you provided that to counsel for the

6   Plaintiffs?

7   A   No, we have not. We have -- our practice

8   is to record the printed copy because the

9   electronic copy sometimes doesn't get properly

10   saved or something will happen to it.

11   In this case I'm not aware that I have

12   been able to find the original electronic copy,

13   but -- so I'm -- I couldn't get it over the

14   weekend. I wasn't here over the weekend.

15   So if we have to have it, we'll keep

16   looking, but at this point in time I don't have --

17   I don't have that exact document for you. We have

18   the -- the archived document which is the data

19   itself.

20   Q   Okay. When you say "the archived

21   document," just so I understand you have on your

22   system the original digital version of the case

23   file or is that what you're not able to locate and

24   you would just have an archive version of it

25   digitally somewhere?

Page 7

```
 1        A     Well, you said case file just there.  A

 2   minute ago, I thought you said the HVE file.

 3        Q     Yeah, the HVE what I call case file which

 4   is the original HVE file.

 5        A     Yeah, I don't -- when I looked, we didn't

 6   have that.  We have -- we maintain the paper copies

 7   of everything obviously because they can be put

 8   under lock and key, but anybody on the computer

 9   doing other work can, you know, move things around

10   on us from time to time.

11             So I mean, I'm not saying I don't have

12   it, I'm saying I couldn't find it when they looked

13   for it this weekend.

14        Q     Now I understand.

15             So you -- after it was originally

16   generated, you printed out hard copies of the

17   various reports that it generates and you kept

18   those?

19        A     Right.  Yes.

20        Q     But you're not able to locate that

21   original HVE file that would contain all of those

22   reports in a digital format?

23        A     Not -- not as of yet, no, sir.

24        Q     Okay.

25        A     So.
```

Page 8

1   MS. CANNELLA: Mr. Hill, what was the end

2   of that question? I couldn't hear it. The

3   original HVE file that would contain?

4   BY MR. HILL:

5   Q   All of the data and reports generated by

6   the HVE software.

7   A   Well, we -- we printed and generated

8   everything that we need or could possibly need.

9   If someone else wants something, we can

10   always re-enter it and rerun it, I don't have a

11   problem doing that.

12   I'm just telling you that what was open

13   when we hit print, we didn't find that the way we

14   thought we would and that's the electronic filing

15   issue.

16   But we can re-enter it and, you know,

17   give you that, that wouldn't be a problem.

18   BY MR. HILL:

19   Q   Sure. And when you say re-enter it, just

20   so I understand, you would need -- actually, rerun

21   the test?

22   A   Right. We would just --

23   Q   Rerun the same --

24   A   Rerun it again, yeah, to the best of our

25   abilities.

G. Bryant Buchner , P.E.   January 23, 2024
Bryson, Santana and Joshua v. Rough Country, LLC

Page 9

1   Q   All right. And I just ask that because I

2   believe we received the damage data report, the

3   accident history report. Those were produced a

4   week ago or more than a week ago with your original

5   file.

6   And then over the weekend, we received

7   the event data report and the vehicle data report

8   and the geometry files.

9   But what we haven't seen is the driver

10 controls report, the environment data or the

11 messages report.

12   And I guess what you're saying is you

13 didn't print those other three reports out at the

14 time it was originally run and you're not sure

15 whether you still have it?

16   A   Right. And to me, they're -- they

17 wouldn't be relevant because we're only simulating

18 the crash component of it, we're not trying to run

19 the vehicle to see if they go to rest or anything

20 like that.

21   It's a -- we're simply using it for the

22 contact phase, but -- so we -- we never printed

23 those. But if we -- somebody's got to have them,

24 we'll just have to try to recreate the wheel which

25 we can do or anybody else can recreate the wheel --

G. Bryant Buchner , P.E.   January 23, 2024
Bryson, Santana and Joshua v. Rough Country, LLC

Page 10

1   Q   Sure.

2   A   -- if they have the program and want to.

3   Q   Okay. But you have produced all the

4   printouts that you have from that HVE simulation?

5   A   Yes.

6   Q   Okay. All right. Just so that we have

7   it, I will share my screen here. And we -- I'll

8   attempt to. I'm having some issues.

9   Give me one second to figure this out.

10   Hopefully this will work.

11   A   Agreed.

12   Q   I'm nervous. Got off to a rough start.

13   Okay. Can you see my screen?

14   A   I can.

15   Q   Okay. Great.

16   (Deposition Exhibit 1 marked.)

17   BY MR. HILL:

18   Q   I'm just going to attach this as

19   Exhibit 1. This is just the notice to the

20   deposition just so we'll have it attached.

21   And I'll fast forward here hopefully to

22   the Exhibit A. And I know that there were some

23   objections to some of the items requested here.

24   As I understand it, the objection was

25   based upon communications with counsel in

G. Bryant Buchner , P.E.   January 23, 2024
Bryson, Santana and Joshua v. Rough Country, LLC

Page 11

1   anticipation or preparation for trial or for your

2   testimony.

3   Other than those types of communications,

4   have you withheld any other information requested

5   in this exhibit that relates to this case?

6   A   No.

7   Q   And I'm assuming you have the notice

8   there in front of you?

9   A   Yeah, and I don't know that I withheld

10   anything. But again, I wasn't involved in the --

11   all my engineering stuff, I brought with me.

12   Q   Right. So you basically brought

13   everything in your file that relates to this case.

14   And that means you produced that to Plaintiffs?

15   A   Yes.

16   Q   And you're not aware of what they may or

17   may not have withheld in producing to us?

18   A   That's right.

19   Q   Okay.

20   VIDEO TECHNICIAN: Counsel, can we

21   actually go off the record briefly just to fix an

22   audio issue real fast.

23   MR. HILL: Sure.

24   VIDEO TECHNICIAN: The time is 11:21. We

25   are off the record.

G. Bryant Buchner , P.E.   January 23, 2024
Bryson, Santana and Joshua v. Rough Country, LLC

Page 12

1   (Off the record.)

2   VIDEO TECHNICIAN: The time is 11:24. We

3   are back on the record.

4   MR. HILL: Thank you. Sorry. I was just

5   going to joke that I -- witnesses like to not be

6   able to hear my questions because my questions

7   don't make any sense.

8   THE WITNESS: Well, we're getting it all

9   straightened. We're going to be fine here.

10   MR. HILL: Yeah, sorry for these glitches

11   here at the beginning.

12   All right. Let me share my screen real

13   quickly.

14   (Deposition Exhibit 2 marked.)

15   BY MR. HILL:

16   Q   All right. Can you see my screen now?

17   A   Yes, sir.

18   Q   Okay. This is -- I'm going to mark this

19   as Exhibit 2. This is your CV.

20   And we'll note that it appears to be

21   dated 11/20/22. Is that the most current version

22   of your CV? It's on the last page.

23   A   It would seem to me there has been one

24   published since 2022. So, no.

25   Q   All right. Did you bring a current copy

G. Bryant Buchner , P.E.   January 23, 2024
Bryson, Santana and Joshua v. Rough Country, LLC

Page 13

1   of your CV with you today?

2   A   No. I just thought there was a current

3   one in the file. I didn't look at my CV.

4   Q   Sure. Well, this is just the one that

5   was produced to us in the case with your expert

6   report.

7   Do you know of any particular experience,

8   education or training that would not be reflected

9   on this CV that you're relying upon in giving your

10   opinions today? That's all I'm trying to verify.

11   A   No. Should be no issues there at all.

12   Thank you.

13   Q   Okay. And on this page right here, this

14   is, I believe, the third page of your CV, about a

15   third of the way -- or half of the way down there

16   is a bullet point for HVE User Software Training,

17   engineering Dynamics Corporation.

18   So I'm assuming that's reflected that you

19   have gone to EDC for HVE user training?

20   A   Yes.

21   Q   And when did you have that training?

22   A   Oh, in -- I've been using HVE for 30

23   years. That may have been -- from what I remember,

24   it's almost 20 years ago.

25   Q   All right. And did you actually go there

G. Bryant Buchner , P.E.   January 23, 2024
Bryson, Santana and Joshua v. Rough Country, LLC

Page 14

1   in person for that training?

2   A   They -- I think that was -- my memory is

3   that was in Miami. I think they came to Miami and

4   I went to Miami.

5   Q   All right. Was that part of some larger

6   conference in Miami or do you remember the

7   circumstances surrounding that training?

8   A   No, it was just for that. I went to, you

9   know, day training from HVE. That was -- that was

10 what it was.

11   Q   Sure. And you said it was approximately

12 20 or so years ago?

13   A   Yes, sir.

14   Q   All right. Have you received any

15 additional training on the use of HVE since that

16 time?

17   A   I don't really remember. We use it. I

18 try to stay update. I'll -- if we need some

19 information me and the staff will research.

20   They have different forums. My junior

21 engineers will go to forums and then we'll talk

22 about, you know, what they did.

23   So I mean, I've -- I've stayed abreast

24 with it as far as using it, but I don't think I've

25 actually gone to any seminars personally since

G. Bryant Buchner , P.E.   January 23, 2024
Bryson, Santana and Joshua v. Rough Country, LLC

Page 15

1   then.

2   I mean, I was using it for 10 years

3   before I ever went to a seminar, so it's really a

4   pretty straightforward program.

5   Q   Sure. How did you learn how to use it

6   without going to any type of training?

7   A   I'm an engineer. You know, most of the

8   programs I've used in my life didn't come with --

9   you didn't go to seminars, you learn how to use

10   them. You investigate them. They follow physics.

11   HVE's -- been a lot of updates. I still

12   call it EDSMAC and EDCRASH because that's what they

13   were way back in the day.

14   But, you know, it's -- it's an iterative

15   process that they keep updating. And as long as

16   you keep using it and keep working with it, you're

17   basically, you know, eating the elephant in small

18   bites. I wouldn't mind going to a course but I

19   haven't needed to.

20   Q   Okay. And when you use HVE, do you run

21   the simulations yourself and provide the input or

22   is that something your staff does?

23   A   I'll talk to staff. I generally if I

24   need to show them some stuff, I will. But

25   generally I'll let them set it up and get it

G. Bryant Buchner , P.E.   January 23, 2024
Bryson, Santana and Joshua v. Rough Country, LLC

Page 16

1   running. I'll go in and check it.

2   I'll -- sometimes I'll sit down and make

3   adjustments or to do some, I guess, experimenting

4   with it to see what's -- what's going on with any

5   particular accident we're using it in. But most

6   time I have a junior engineer doing, you know, the

7   vast majority of -- of the keystroking and

8   everything.

9   Q   Okay. And describe what keystroking is

10 kind of involved with HVE just at a -- so the jury

11 can understand it or I can understand it. So what

12 type of inputs are needed in order to run the

13 simulation, just in general?

14   A   Well, it's got a lot of different modules

15 and things, but, you know, all of them are going to

16 start with you got to select a vehicle, you have to

17 modify a vehicle, you have to check the CG's in the

18 right location, might change the tire size.

19   Then when you go in and you start

20 actually running your -- your impacts, you have to

21 position the two vehicles. And that's -- you use

22 your -- that's the engineering judgment where first

23 contact is and their orientations and their speeds.

24 All of that is put in with keystrokes.

25   And then once you -- once you get it

Veritext Legal Solutions
800.808.4958   770.343.9696

G. Bryant Buchner , P.E.   January 23, 2024
Bryson, Santana and Joshua v. Rough Country, LLC

Page 17

1   where it can run a simulation and it hits the

2   vehicles together, then you look at what happens

3   and the outputs.

4   And the outputs a lot of times aren't

5   exactly what you expected or what you wanted, so

6   you start making adjustments.

7   And in this case, the adjustments were we

8   knew the impact speed of the truck and we knew the

9   delta-V of the truck.

10   So we had to make -- we had to do a

11   little bit of tuning, which is the keystrokes,

12   where you change some of the parameters until you

13   see something that represents the accident that

14   you're trying to investigate.

15   But -- and so -- and in this case the

16   scene is very simple, it's a flat scene. There

17   really isn't a scene, so we don't have to -- a lot

18   of times you'll be adjusting the scene and slopes

19   and, you know, where things are.

20   But in this case we're not doing --

21   really needing to do any of that. I mean, it's

22   just about the size of the vehicles, how they hit,

23   their velocity vectors, when they hit and then a

24   little bit of adjusting like in this case, things

25   like the coefficient of restitution to -- to tune

Page 18

1   it and then get everything right.

2   Q   Thanks. And we'll go into all of that in

3   detail later.

4   Did you use HVE to try to simulate the

5   accident that happened in this case?

6   A   No.

7   Q   Okay. And have you in the past when

8   you've used HVE to explore a hypothetical accident

9   that's different from the accident that you're

10   investigating, have you run a baseline HVE test to

11   try to simulate the actual accident? Have you ever

12   done that?

13   A   That's a big question. And I think -- I

14   think it boils down to, the simplified version,

15   have we ever used HVE to simulate an actual

16   accident, the answer is yes.

17   Q   And what would be your reasoning for

18   simulating an actual accident using HVE when you

19   actually know what happened in the accident?

20   A   Well, I'm -- I'm -- I -- you really

21   confused me with that question.

22   Q   All right. Let me -- let me try to

23   rephrase it. Sorry about that.

24   A   Sure.

25   Q   Part of your analysis of any accident is

Page 19

```
 1    to actually physically look at the vehicles

 2    involved, look at the scene and use that

 3    information to recreate the accident, correct?

 4    That's sort of Step 1?

 5         A    Reasonably.  Reasonably.  We call it

 6    reconstruct the accident, yes.

 7         Q    Yeah.  And if you can do that using the

 8    actual physical evidence from the actual accident,

 9    why would you need to run an HVE simulation of the

10    actual accident?

11         A    Okay.  I think I understand your

12    question.

13              If we just look at the physical evidence,

14    we can tell where vehicles hit and tell where

15    vehicles move, but we can't always tell the speed

16    at which the vehicles hit.

17              And that's where HVE would be very

18    beneficial is to test different speeds and to see

19    which speeds match the physical evidence.  They

20    don't always perfectly match but, you know, within

21    reason.

22              However, in a case where we know the

23    speeds, say in this one because we have the speeds

24    recorded by the electronic data in the pickup

25    truck, we don't need a simulation program to
```

Page 20

```
 1   reconstruct the speeds.

 2            So HVE is very helpful when you're --

 3   when you're missing some information.

 4            Well, in this case we're really not

 5   missing any information about the accident.  We

 6   kind of know everything.  We don't need HVE.

 7            But if we want to say what would happen

 8   if the truck looked different, then that's where

 9   HVE is very helpful.  And that's what we used it

10   for here, but...

11            So there's -- there's crashes that we

12   need HVE to fill in some of the blanks, but then

13   there's other crashes where we don't need HVE.  And

14   so, therefore, we don't use it.

15       Q    Other than determining the speed of the

16   vehicles when you don't know it, what other uses

17   would there be for HVE and simulating an actual

18   accident?  What other data can it provide?

19       A    I'm sorry, I spoke over you.  I think I

20   heard your whole question, but ask it again.

21       Q    Sure.  So you indicated that one reason

22   to run the HVE simulation on an accident that

23   you've actually -- that actually occurred would be

24   it could tell you the speeds when you don't know

25   the speeds in the accident.
```

G. Bryant Buchner , P.E.   January 23, 2024
Bryson, Santana and Joshua v. Rough Country, LLC

Page 21

1   What are some other reasons you would run

2   an HVE on an actual accident? What are some other

3   information you can glean from that that you can't

4   get from investigating the actual accident?

5   A   Rotation rates can be hard to get.

6   Accelerations at different parts of the vehicles

7   can sometimes be hard to hand calculate.

8   I mean, you can use some -- some Euler

9   mechanics calculations, but those are -- those are

10   -- can be pretty tough to do.

11   So sometimes it's just a convenient way

12   to fill in some of the more subtle blanks of what a

13   vehicle is doing.

14   And sometimes it's just because you want

15   to visualize it, you want to -- you want to kind of

16   -- you've done all your calculations and say, okay,

17   well, we think this evidence means this, let's run

18   an HVE to give us a quick visualization check on --

19   on what our brain is telling us.

20   So it's got some advantages depending on

21   the situation.

22   Q   I believe you indicated that, you know,

23   it's obviously only as good as the input you put

24   in. And then sometimes you need to tweak those

25   inputs to get the result that you're looking for;

G. Bryant Buchner , P.E.   January 23, 2024
Bryson, Santana and Joshua v. Rough Country, LLC

Page 22

1   is that fair?

2   A   That was specifically for this case

3   because we -- we had -- we knew -- we knew the

4   inputs and the outputs with respect to speed, but

5   the program didn't admittedly match the input speed

6   with the output speed or the delta-V.

7   And that's because the program didn't

8   have the co-efficient of restitution quite right.

9   Because it comes with defaults and we had to work

10   on that a little bit to -- so that the mathematical

11   equations would -- would get from the beginning to

12   the end properly. So we had to get a little

13   guidance.

14   Q   So to make sure I understand that, was it

15   the use of the default coefficient of restitutions

16   by the software the reason why the input and output

17   delta-Vs didn't match?

18   A   Essentially, yes.

19   Q   Was there any other aspect of the initial

20   run that you think contributed to the inputs and

21   outputs not matching?

22   A   No.

23   Q   Okay. And in tweaking the coefficients

24   of restitution, and we'll get into this later, I

25   believe you had to look that up somewhere, correct?

G. Bryant Buchner , P.E.   January 23, 2024
Bryson, Santana and Joshua v. Rough Country, LLC

Page 23

1   Did you get that from Neptune Engineering

2   for on one -- at least one of the vehicles?

3   A   No, no, no. That's just -- that's just a

4   tuning within the program. That's -- once you run

5   it, the outputs were precisely matching the EDR

6   data in the truck.

7   So we -- we tuned effectively the

8   coefficient of restitution to -- to get it to

9   match.

10   Q   And just so I understand this, the

11   coefficient of restitution of what?

12   A   Of the collision. It's --

13   Q   So that's not of the roadway?

14   A   Right.

15   Q   Not -- and it's -- is it of both

16   vehicles? When you say "the collision," just so I

17   understand it, what do you mean?

18   A   It's a property of the -- let me see if I

19   want to use the right word, property.

20   It's a product of the collision of the

21   two vehicles. They would independently have a

22   restitution associated with them if they ran into

23   an immovable barrier wall.

24   And when they hit each other, the

25   restitutions were of each individual and worked

G. Bryant Buchner , P.E.   January 23, 2024
Bryson, Santana and Joshua v. Rough Country, LLC

Page 24

1   together for a total restitution of -- of the

2   accident.

3   So we do a -- so it's -- it's for the

4   crash. It's not for each car. It's for a crash.

5   Because if you hit the cars in a

6   different orientation, you -- you would -- you

7   would probably get a slightly different answer on

8   that.

9   So it's -- it's how much the -- the

10   vehicles rebound and how much they -- they -- they

11   spring off of each other, if you will.

12   They don't stick together perfectly, they

13   actually work to try to -- they bend -- like you

14   take a paper clip and bend it, then you let it go,

15   it springs open a little bit. The metal bends in

16   and it wants to spring out a little bit.

17   And that's -- that's the -- the part that

18   nobody really knows about a crash or exactly

19   precisely sure. And that's one of those things

20   that you have control over to try to refine your

21   analysis.

22   Q   And thanks for that explanation.

23   So you can't really calculate that

24   combined coefficient of restitution? I think

25   that's what you just meant by the -- the very end

Page 25

1   of that answer.

2   A   Yes.

3   Q   What -- the way you can determine it is

4   by manipulating that combined coefficient of

5   restitution in the program until it outputs the

6   appropriate delta-Vs for both input and output; is

7   that a fair way to put that?

8   A   Right, when you know the delta-Vs.

9   Now, you can -- if you don't know them,

10   you can use a default in the program or you can use

11   a range. But in this case we knew them, we knew --

12   we knew the two values. We -- we knew the

13   beginning and ending.

14   We -- we knew the beginning speed of the

15   truck and the delta-V of the truck, so we know the

16   ending speed.

17   And the -- the tool to allow the -- those

18   -- all those numbers to match up is the

19   restitution.

20   Q   Gotcha.

21   And you knew that from the download from

22   the truck?

23   A   Yes, yeah. The -- the truck measured the

24   crash for us, so.

25   Q   Right.

G. Bryant Buchner , P.E.   January 23, 2024
Bryson, Santana and Joshua v. Rough Country, LLC

Page 26

1   A   It really did -- did a lot of what HVE

2   might normally do for us if we needed it. We don't

3   -- or if we needed it. But in this day and age,

4   the truck measures it for us.

5   Q   Sure. Now, is there anything preventing

6   you from using HVE to first simulate the actual

7   crash in this case?

8   If you are to do that using the actual

9   vehicles involved in this case, wouldn't that

10 generate a coefficient of restitution for the

11 actual accident that would be consistent with the

12 inputs and the outputs?

13   A   Well, that's two questions in there.

14 First, HVE would be quite suspect anyways starting

15 out trying to reconstruct this crash because of the

16 amount of -- I call it the -- the truck exploded

17 the rear of the car.

18   The -- the way that the -- that the

19 unibody rails bend down, the way that the wells

20 unzip, the way that metal was torn, the way that

21 the hatch was actually caved in.

22   You've actually defeated the structure of

23 the Escape so much that I would be worried about it

24 following HVE's, let's just say, thought process.

25   There's a -- in HVE, it's -- they're

G. Bryant Buchner , P.E.   January 23, 2024
Bryson, Santana and Joshua v. Rough Country, LLC

Page 27

```
 1    trying to model a vehicle that will follow -- that

 2    will act like a vehicle.

 3             I'm not so sure that the -- all the

 4    damage on the back of the Escape would make it

 5    robust to use an HVE simulation of the way it was

 6    damaged in the accident.

 7             The best answer to the question, I didn't

 8    need to because I can measure everything and I can

 9    have all of that.  I have everything I need about

10    the accident form the truck or the damage.

11             But if your question is, and I think it

12    was, why didn't we do HVE or why wouldn't we, well,

13    I would be very concerned that it would be actually

14    representative.

15       Q    And what differentiates an HVE of the

16    actual accident from the HVE simulation that you

17    ran using a -- a model stock 2015 F250?

18             So obviously, you're -- you're going to

19    testify here that the HVE simulation that you ran

20    of a hypothetical incident is reliable and is

21    valid, but I think you've just said that you would

22    not feel that way if you try to model the actual

23    accident.  So what's the difference between the

24    two?

25       A    Okay.  Well, first, when we used HVE we
```

Page 28

1   were using it on SV -- for two vehicles that hit as

2   vehicles should reasonably strike each other,

3   meaning bumper to bumper, structure to structure.

4   So, you know, in the development of the

5   program, it's clearly that -- that crash was

6   contemplated. So we feel very comfortable about

7   that. It's a robust platform to do that with.

8   I didn't say that it couldn't be used for

9   the other, I said I would be very suspect of it

10   because of the factors I gave you. And I would say

11   we didn't need to.

12   In other words, it would be -- for our

13   purposes, it wouldn't add any knowledge, we already

14   had all the knowledge. So we'd basically be adding

15   uncertainty on to certainty by trying to use HVE to

16   that.

17   So I -- I would be suspect of doing it

18   because of a -- but I didn't need to do it, and

19   that's why we didn't do it.

20   Q   So would you be critical of an approach

21   taken by others in your field that they would

22   always use HVE to simulate the actual crash first

23   to create a baseline report that would make sure

24   that the inputs that you used in the hypothetical

25   crash were consistent with the actual crash?

G. Bryant Buchner , P.E.   January 23, 2024
Bryson, Santana and Joshua v. Rough Country, LLC

Page 29

1   MS. CANNELLA: Object to the form of the
2   question as it assumes facts not in evidence.
3   A   Yeah, and there's two -- there were two
4   questions there.
5   The first one is, if someone says they're
6   always going to use HVE for everything. I'm like,
7   well, close the door, I don't even want to --
8   that's a -- to me that's crazy.
9   HVE is not that good of program. It's
10 got things that can be used for and things it can't
11 be. It's like all the other calculation tools we
12 have.
13   If you're -- if that's what you think, is
14 that I can use it for everything to be
15 representative, many times HVE just -- we know all
16 the evidence, but when we start looking at
17 something in it, it -- it can't handle it. It
18 can't handle it.
19   But clearly, in a straight-on rear
20 collision, bumper to bumper, it's -- it's a -- it's
21 a wonderful tool as we use. It's just one of the
22 tools that we use.
23   But if -- if -- to say -- to give it the
24 amount of deference that's in your question, it's
25 like, oh, HVE knows physics better than physics

G. Bryant Buchner , P.E.   January 23, 2024
Bryson, Santana and Joshua v. Rough Country, LLC

Page 30

1   does. HVE knows reality better than reality does.

2   I would disagree with that. I would say,

3   hmm, that's -- maybe I'm misunderstanding

4   something, but I would not respect that approach

5   with the absolutism that you gave it.

6   BY MR. HILL:

7   Q   I appreciate that answer, and I guess I

8   phrased the question poorly.

9   Let's say you had an environment where

10 you believe HVE was a proper tool. You just kind

11 of said it's limited.

12   A   I didn't hear one of the words. If you

13 can ask that again, so I don't have to go back. Or

14 say it again.

15   Q   Yep.

16   So let's say you have a bumper-to-bumper,

17 rear-end collision like you've just described where

18 you feel like the HVE program is sufficient to

19 actually use to analyze the crash.

20   All right, so let's assume that's the

21 case. And let's say you wanted to change the

22 bumper height on one of the vehicles so that it

23 would still be a bumper-to-bumper impact, correct?

24 So it would still be a situation where you feel

25 like HVE would be a valid tool.

G. Bryant Buchner , P.E.   January 23, 2024
Bryson, Santana and Joshua v. Rough Country, LLC

Page 31

1   Let's say in that situation, where it

2   could properly model both the actual crash and the

3   hypothetical crash when conditions changed.

4   In that situation would you agree that it

5   would be smart to do a baseline HVE simulation of

6   the actual crash in order to make sure that it can

7   properly simulate what you know happened before you

8   try to simulate a hypothetical crash?

9   A   I would say you wouldn't know unless you

10   showed me the crash and let me look at what you

11   were talking about.

12   I mean, that's -- that's -- that's --

13   that absolutism, oh, it must be okay. We don't

14   know until we see -- until we see the evidence and

15   see what it is.

16   HVE is nothing more than a tool that we

17   have available to us along with other tools.

18   So I -- the question can't be answered.

19   It has -- we have to see the crash and have to know

20   what the data is and what we're looking at.

21   Because it may and may not be able to do it.

22   Q   Well, it would have --

23   A   I don't let HVE make the decisions for

24   me, I make the decisions. HVE is just a tool.

25   It's like a wrench.

Page 32

1   You know, there are several different

2   wrenches you can turn a nut with. You know, a

3   box-end wrench is going to be a whole lot better

4   than a crescent wrench. But sometimes a crescent

5   wrench is a better one because -- for whatever

6   reason. I don't know until I look at the nut.

7   I'm not going to know until I look at the

8   accident. So I -- I would say I don't know.

9   Q   Well, I think you've indicated that with

10   this tool, this wrench, you have to calibrate it

11   properly in order for it to be effective. Do you

12   agree with that?

13   A   Yeah, a crescent wrench you've got to

14   make -- you've got to adjust it tight to fit the

15   nut or it's not going to work.

16   Q   Right. And what --

17   A   Same thing with any program, you're going

18   to have to -- you have to -- it's just called

19   tuning when you're doing your simulation. It can't

20   know everything. We have to give it some more

21   information sometimes.

22   Q   Right. And one way to learn what the

23   proper -- appropriate tuning would be would be to

24   tune it until it properly simulates the actual

25   crash involved. That would be one way to tune it,

G. Bryant Buchner , P.E.   January 23, 2024
Bryson, Santana and Joshua v. Rough Country, LLC

Page 33

1   correct?

2   A   No, not in this case. That would --

3   because -- look, you're -- that's the apples and

4   oranges comparison that -- it doesn't work.

5   Because in the accident the tailgate, in

6   the backseat of the car in the pillars, the C

7   pillars, or maybe it's the D pillars, absorb the

8   energy, not the frame of the vehicle or the -- or

9   the unibody in the rails.

10   So to say that -- that we have to trick

11   -- because it would be tricking, I think -- HVE

12   into making that crash happen because I don't think

13   it's really built for that crash.

14   I don't -- I think that's -- when the

15   truck gets so high above the bumper, as I told you

16   earlier, I would be very suspect to even try and

17   use it. And then say you have to do that.

18   We have all of that data. We know what

19   that information is. We want to use HVEs for

20   something that's appropriate.

21   And I don't -- I'm not -- I'm not saying

22   you wouldn't learn something from it, but you would

23   never learn anywhere near what we already know

24   because of the -- the data that we have from the

25   truck and the physical evidence we can see.

G. Bryant Buchner , P.E.   January 23, 2024
Bryson, Santana and Joshua v. Rough Country, LLC

Page 34

```
 1              That would be a -- for me it would be a

 2    useless endeavor and one fraught with -- fraught

 3    with -- with danger that you would get that

 4    information.

 5              But if someone wants to do it, I'm happy

 6    with them doing it.  I just don't think that would

 7    be appropriate at all.

 8        Q    So the distinction there is that if you

 9    have bumper override and impact up -- that's above

10    the bumper in any way, are you saying that that

11    creates a situation where HVE is no longer

12    something you would rely upon because it just can't

13    handle that type of situation?  Is that kind of --

14    a way to describe that?

15        A    No, I told you about this earlier in the

16    first time you asked the question.

17              The first bumper came off, the bumper bar

18    came off of it, of the car.  The -- the unibody

19    rails, one went down, one went in.  We lost a lot

20    of the welds at the back.

21              So I think that the -- the back structure

22    of this vehicle wasn't performing anything like

23    what we imagined a car would actually perform.

24              It's outside of what a design or a

25    computer program, you know, in my opinion, would be
```

G. Bryant Buchner , P.E.   January 23, 2024
Bryson, Santana and Joshua v. Rough Country, LLC

Page 35

1   taking into consideration in -- in putting one

2   that's -- you're going to be crashing vehicles that

3   should act somewhat like the structures they were

4   designed to be. So that's really my complaint.

5   I've -- I've given other examples as we

6   go along. But, you know, you can drive a nail with

7   a crescent wrench and it goes in, but that doesn't

8   mean you should be driving nails with crescent

9   wrenches.

10   I think that's what could be going on

11 here, is you could -- you can always get an answer

12 out of HVE, but I don't know what the answer would

13 be good for.

14   Because it's -- you know, it's -- one, we

15 don't need it; and second, it's taking it outside

16 of areas where I'd be comfortable that it would

17 reliably tell you something.

18   And it might tell you a few things. I

19 mean, if you just look at the momentum of it and

20 things like that.

21   But as far as understanding the crash the

22 way I need to, I don't -- I don't think it would be

23 a good choice.

24   Q   All right. So the HFE -- or HVE, sorry,

25 simulation that you ran was dependent upon -- in

G. Bryant Buchner , P.E.   January 23, 2024
Bryson, Santana and Joshua v. Rough Country, LLC

Page 36

1   order for it to be useful and reliable to you, if I

2   understand what you're saying, it's dependent upon

3   there being bumper to bumper or frame to frame

4   impact?

5   A   No, no, you are dutifully trying to go

6   outside of my answer with this.

7   It's -- it's a normal vehicle-to-vehicle

8   collision. The vehicles acting fairly normal if we

9   can get the truck to stay at the stock height.

10   It's -- it's well within the -- what the

11   program is made to do, which we really appreciated.

12   It's made to handle a vehicle-to-vehicle collision

13   that's reasonable.

14   The accident wasn't reasonable. And the

15   -- and the structure of the car didn't perform

16   like -- anything like what it was reasonably

17   intended to do because the head was so high and it

18   defeated, you know, basically the structure of the

19   car.

20   It's a unibody car that's no longer a

21   unibody car anymore, it's -- it's piecemeal. It's

22   torn apart. Pieces are hanging off of it. It just

23   -- it just falls outside of what a car reasonably

24   should be expected to do in a crash.

25   And if a car can't reasonably expect it,

Page 37

1   how can we expect a computer program written to --

2   to analyze car crashes to handle that, that's my --

3   that's my real issue.

4   And I've answered it about four different

5   ways now. I don't have anything else to tell you

6   on this.

7   You're asking me about a hypothetical can

8   we use HVE to do -- to stimulate the actual

9   accident? And I'm like I would be suspect. I've

10 given you a lot of reasons. I wouldn't -- I --

11   Q   I'm sorry that we're misfiring.

12   A   I initially --

13   Q   Yep. If I'm not ans -- asking it

14 appropriately, but I'm just trying to find out.

15   And -- and I'll move on and we'll talk

16 about this more in detail later, I guess.

17   But you've made the distinction between a

18 normal anticipated accident, which is how you're

19 describing your simulation of a stock 2015 F250

20 being involved in this accident instead of the

21 subject F250.

22   And you've kind of said, okay, with a

23 stock one, I can rely upon HVE because that creates

24 a crash that the program would expect. Have I

25 correctly stated that?

G. Bryant Buchner , P.E.   January 23, 2024
Bryson, Santana and Joshua v. Rough Country, LLC

Page 38

1   A   No, no. You -- parts of it are stated.

2   But I just need to reiterate, we didn't need an HVE

3   for the crash that happened because we have

4   everything we need.

5   HVE was just a tool to analyze what

6   should have happened without a lifted truck.

7   That's all it was.

8   We're having this whole conversation

9   which is actually something I never really had to

10   have.

11   You're -- you're -- I'm just being -- I'm

12   answering your questions, they weren't mine. I

13   don't need HVE for what you're asking it about.

14   And I never even -- I'm just answering --

15   I'm -- you have to tell the answers honestly now

16   because I'm -- I'm an engineer.

17   But the fact is, I didn't need HVE for

18   the accident because it add -- would add nothing.

19   What I needed HVE was to run what should have

20   happened. Period.

21   All -- this whole debate, we've been

22   going for, you know, 45 minutes, is about -- about

23   something that is outside of our work. I'm just

24   trying to answer your questions.

25   Q   Well, I don't mean to be debating

Page 39

```
 1   anything.  And I'm not talking about using HVE

 2   anymore to simulate the actual crash.

 3             I'm talking about the parameters under

 4   which you believe HVE is appropriate.  And you've

 5   described the simulated HVE work that you ran here

 6   as one of the circumstances where it's appropriate

 7   because there's bumper-to-bumper contact that you

 8   -- that you believed the program would expect.  Is

 9   that fair to say?

10             I'm just saying that's why you believe it

11   was appropriate in the simulation you did in this

12   case?

13        A    No, no, you're -- you're -- you've still

14   got a twist to it that's not appropriate.

15        Q    Okay.

16        A    Basically -- basically we looked at the

17   cars and said, guys, if these were reasonable stock

18   cars, how can we tell what the crush would be?

19             One of the tools we used was HVE, but

20   that was just a, you know, choice.  We didn't

21   choose it -- we're not -- I'm not trying to

22   categorize use HVE in bumper-to-bumper crashes.

23             That's what you're trying to get me to do

24   is to go -- is to -- is to talk about HVE as a

25   universal, you know, when you can use it and when
```

Page 40

```
 1    you can't.
 2              And I've already answered, we -- we look
 3    at each individual case by itself and we make
 4    judgments there of all the tools we have.
 5              So in this case I knew that it would be
 6    reasonable with stock cars to run HVE and that's
 7    the only decision I had to make and that's the only
 8    one I did make.
 9         Q    Sure.  Let me ask it this way: Do you
10    have any support -- or would you agree that this
11    was a complex crush-type situation that you're
12    analyzing here?
13         A    What -- what part are you talking about?
14         Q    So if you're going to anal -- use HVE to
15    -- what -- the tool -- the reason you use it in
16    this case is to assist you in determining what type
17    of crush would have been experienced under the
18    hypothetical simulation that you ran using a stock
19    F250, right?
20         A    We -- it was one of the tools to predict
21    what the crush would have been with a stock F250,
22    yes.
23         Q    Right.  And would you agree that the
24    crush with a stock 250 is a complex crush that
25    you lay?
```

G. Bryant Buchner , P.E.   January 23, 2024
Bryson, Santana and Joshua v. Rough Country, LLC

Page 41

1   A   Not any more complex than what we do

2   every single day. It's -- to us it's not

3   particularly complex, but maybe -- maybe to others

4   it is.

5   It's -- this is just a standard ho hum

6   every single day. We -- this is what we do. It's

7   not complex.

8   Q   Well, let me put it another way: Do you

9   have any support that you can cite to that would

10   validate your use of HVE to calculate or determine

11   crush in a hypothetical incident?

12   A   Sure. I keep two of these books back

13   here. This is just so I can give one to the staff

14   when they come in and they have all their own

15   books.

16   This is Traffic Crash Reconstruction by

17   Lynn Fricke from the Northwestern Traffic

18   Institute.

19   This is the first book that I have

20   everyone go to in my office to -- as a good primer.

21   It talks about HVE and the robustness of it. And

22   it talks about crush and modeling the vehicles in

23   it.

24   So it's -- that's -- that's what I think

25   is the premier training organization. And they --

Case 2:22-cv-00017-RWS Document 102-1 Filed 09/05/24 Page 42 of 307
G. Bryant Buchner , P.E.   January 23, 2024
Bryson, Santana and Joshua v. Rough Country, LLC

Page 42

1   you know, they -- they reference it and they

2   recommend it.

3   Q   You're saying that book is going to say

4   that HVE can be used to model complex crush

5   situations?

6   A   Yes.

7   Q   All right.

8   A   Accident reconstruction, it uses crush.

9   It references the programs that we used here, yes.

10   Q   Sure. Now, I know that components of

11 HVE, while we're on it, would be the SIMON

12 software?

13   A   Yes.

14   Q   And whenever you use SIMON, you also need

15 to use the DyMESH model?

16   A   That's how we do it, yes. I don't think

17 you always do, but yes.

18   Q   And have you had any specific training in

19 SIMON or DyMESH?

20   A   Other than using it for years, no, sir.

21   Q   Okay. So you've not gone to any classes

22 or anything related to that software?

23   A   No. If we need something, we'll contact

24 them and we'll talk to them, but no.

25   Q   Sure. Let me change my screen here.

G. Bryant Buchner , P.E.   January 23, 2024
Bryson, Santana and Joshua v. Rough Country, LLC

Page 43

```
 1   Hold on.
 2             Sorry, I didn't mean to be sharing it the
 3   whole time there.
 4        A    I'm only look -- I've got you in a little
 5   box in the corner, so it doesn't matter at all.
 6        Q    All right.  All right.  I've shared your
 7   testimony list.  We'll mark that as Exhibit -- I
 8   guess we're on No. 3.
 9        A    Yes.
10             (Deposition Exhibit 3 marked.)
11   BY MR. HILL:
12        Q    And I think this goes back to September
13   of 2020.
14             Are you aware of any of these cases where
15   you -- and these are just cases where you've given
16   trial or deposition testimony, correct?
17        A    Yes.
18        Q    And so, you could work as a consulting
19   expert on many other cases where you don't get
20   trial or deposition testimony that are not on this
21   list?
22        A    Sure.  Most of -- majority of our work --
23   majority of our work doesn't ever require a
24   deposition or trial, so it's not listed.
25        Q    Right.  And that's what I'm kind of
```

G. Bryant Buchner , P.E.   January 23, 2024
Bryson, Santana and Joshua v. Rough Country, LLC

Page 44

1   getting at is, with my questions I don't want them

2   to be limited just to trial or deposition cases.

3   But from this list or from your other

4   cases not on this list in this time period, did any

5   of them involve an analysis of an accident

6   involving lifted vehicle?

7   A   I don't know of any off the top of my

8   head, but I have a hard time believing that there

9   weren't lifted vehicle in some of these accidents.

10   Q   But as we sit here today, you don't

11   recall a specific case where you worked on that did

12   involve a lifted vehicle in the accident? You

13   can't recall one specifically?

14   A   I mean, no, I didn't prepare for that and

15   I -- just sitting here, I don't remember.

16   I mean, I'm thinking -- I'm not able to

17   sit here and quickly recall that. I'm sure I've

18   done some. I'm just focused in on this case for

19   this deposition and that's where my mind is. I'm

20   -- I'm focused here but -- and if I think of one,

21   I'll tell you.

22   Q   Sure. So obviously you don't recall any

23   time in the past where you've ever testified that

24   the lift -- the lifted vehicle contributed in any

25   way to increased intrusion or crush in the vehicle

Page 45

 1   that it hit? That's what I'm trying to get at.

 2   A   No, I -- probably not. Basically I just

 3   say here's what it is. You know, in other words,

 4   I'm not really -- I'm pretty much just a facts guy,

 5   here's what happened, here's where it is.

 6   You know, so it -- it just come out like

 7   car A hit car B and this is the crush.

 8   Q   Sure.

 9   A   I don't remember specifically. I'm sure

10   I've been asked a lot, well, if it didn't override

11   what would it look like or something like that, but

12   I just don't remember any of those cases.

13   Normally it's just what it is. It is

14   what it is.

15   Q   Well, speaking to that, how many of the

16   cases that you can recall within this time period

17   that you investigated involved override, as you've

18   just described it?

19   A   Well, override, you know, can happen,

20   especially with an 18-wheeler. A vehicle run into

21   the rear of an 18-wheeler, the side of an

22   18-wheeler. You can also get -- run into objects

23   and cause override. Sometimes you've got multiple

24   impacts where vehicles get -- you know, get

25   changed.

G. Bryant Buchner , P.E.   January 23, 2024
Bryson, Santana and Joshua v. Rough Country, LLC

Page 46

1   So, you know, override is something that

2   we in some shape, form, or fashion deal with a fair

3   amount.

4   Q   Sure. So it can happen without the

5   necessity of one of the vehicles being -- having a

6   lift kit installed? You can have override in a lot

7   of different situations?

8   A   Yes.

9   Q   All right. From this list and from your

10   general experience, can you give me a breakdown,

11   and I know you get asked this question in every

12   deposition, but the percentage of the cases you

13   work on that are for -- or where you're retained by

14   lawyers for the plaintiff versus the number of

15   cases where you're retained by lawyers for the

16   defense?

17   A   It's a 50/50 breakdown. We got as many

18   plaintiff projects that I have defense cases over

19   the years and we maintain it about that at any

20   time.

21   Q   Right. And so you would -- your

22   testimony would be from this testimony list you

23   would estimate that 50 percent of the cases on this

24   list you testified on behalf of the defense and 50

25   percent on behalf of the plaintiff.

G. Bryant Buchner , P.E.   January 23, 2024
Bryson, Santana and Joshua v. Rough Country, LLC

Page 47

```
 1              And I'm not holding you to an exact
 2   percentage, but that's your testimony and probably
 3   your recall of your role in these cases?
 4        A    Yes.
 5        Q    Okay.
 6        A    Just because that's -- that's how we
 7   manage the work when it comes in.  So it goes out
 8   the same way it comes in usually.
 9        Q    So how do you manage that?  I mean, you
10   can't control who calls you and asks you for your
11   help.  So do you actually limit the number of cases
12   you'll take from one side or the other in order to
13   keep the 50/50 ratio?
14        A    Right.  We'll get more calls than I can
15   handle.  And so, if we -- if there's an imbalance,
16   we just don't -- let's say we've been -- got too
17   many defense projects for that month, we'll just
18   back off.  And -- and before we finish the month
19   out, we'll -- we'll balance it out.
20              So we target a 50/50 on the intake side.
21   Because I can't -- we don't do every project we get
22   asked to do.
23        Q    Right.  How many of the cases on this
24   list were you retained by Ms. Cannella's firm or
25   her former firm, Butler Wooten, just give -- if you
```

Page 48

```
 1    can recall?

 2              MS. CANNELLA:  Object to the form of the

 3    question as a compound question.

 4    BY MR. HILL:

 5         Q    Well, I just tried to make it simple in

 6    one question, but I can ask it individually if you

 7    want, if you don't understand it.

 8         A    On here, three or four, is my guess with

 9    you.

10         Q    Right.  So you don't know specifically

11    how many, but your guess would be three to four?

12         A    Yes.

13         Q    All right.  And just with Ms. Cannella's

14    firm, her new firm, how many cases have you worked

15    on with her?

16         A    I don't know.  I don't -- I didn't pay a

17    lot of attention.  I still have -- the original

18    group grouped in my mind, so I don't -- and I don't

19    know what happened to the projects that they had

20    and how they split them up or anything.

21              So I know of this project and I can think

22    of one other that I've worked on.  But there might

23    be more.

24         Q    Do you know of any other that you are

25    currently working on?
```

G. Bryant Buchner , P.E.   January 23, 2024

Bryson, Santana and Joshua v. Rough Country, LLC

Page 49

```
1        A     Not off the top of my head, no.

2              All right.  I'm not sure who's got them.

3     I think I can think of three.

4              I think there is one other project.  I

5     don't know what it is, but I did hear a reference

6     recently to a project.  I didn't know the name of

7     it.  And I think Ms. Cannella was associated with

8     it.

9        Q     When you say recently a part of it, do

10    you mean that you're currently working on it or

11    you're just aware that you might be working on it?

12    Or what does that mean?

13       A     Well, I didn't recognize the style or the

14    name and I asked someone who that was.  And it was

15    alluded to that was one of Ms. Cannella's projects.

16    I think it's one we were working on.

17             But I never -- I don't remember names

18    very well.  So I'm -- I'm answering your question.

19    I think I would say three is the best answer.

20       Q     Three that you're currently working on?

21       A     Three I have.

22       Q     Three that you have.  Okay, I understand.

23    Sure.

24             MR. HILL:  All right.  And if I didn't

25    mention it, Ms. Court Reporter, that will be
```

Veritext Legal Solutions

800.808.4958   770.343.9696

Page 50

1   Exhibit 3, I believe, that we were just talking

2   about, his testimony list.

3   (Deposition Exhibit 4 marked.)

4   BY MR. HILL:

5   Q   All right, now I've shared your fee

6   schedule. I'll make that Exhibit 4 just so we have

7   it.

8   And the only question I really have is

9   that is your current fee schedule and -- and

10   reflects the fees.

11   I know this may not reflect the fees that

12   you charged throughout the history of this case,

13   but it reflects the fees that you're currently

14   charging in association with your work in this

15   case; is that fair?

16   A   Yes, sir.

17   Q   All right. And that would include the

18   $1,800 deposition retainer fee related to today's

19   deposition?

20   A   Sure.

21   MR. HILL: All right. That's Exhibit 4.

22   (Deposition Exhibit 5 marked.)

23   BY MR. HILL:

24   Q   All right. I've just shared what I

25   believed to be the invoices that you have invoiced

G. Bryant Buchner , P.E.   January 23, 2024
Bryson, Santana and Joshua v. Rough Country, LLC

Page 51

1   from your work on this case.

2   We'll make that Exhibit -- whatever we're

3   on now, No. 4, I believe, or No. 5.

4   And I just have a few questions about

5   this. I don't know if you have it with you there.

6   It might be easier to look at.

7   But I'll take us to what I am now showing

8   as Invoice No. 26196. I believe that's the first

9   invoice chronologically that we have related to

10   your work in this case. And I just want to confirm

11   a few things.

12   It appears -- appears that the new file

13   intake or setup occurred on December 16th of 2021.

14   Is that fair to indicate that would be

15   your company's first involvement with this case?

16   A   Yes.

17   Q   All right. And do you normally on your

18   invoices indicate when you have communications with

19   the client, and the client being the lawyers that

20   have retained you?

21   A   I would say no. If there's a formal

22   meeting set up or something, the office will

23   normally get it billed that way. But if I just

24   accept a phone call or -- then probably doesn't get

25   recorded that way.

G. Bryant Buchner , P.E.   January 23, 2024
Bryson, Santana and Joshua v. Rough Country, LLC

Page 52

1   Q   Well, on -- on December 21st, 2021, I

2 believe, someone from your office charging at a

3 rate of $150 indicates a telephone conference with

4 a client. Is that what's kind of indicated on

5 this? See on December 21st?

6   A   Yes.

7   Q   I notice that you don't indicate the

8 actual name of the person working on it, there's

9 just the rate.

10   So do you recall who the project

11 engineers or the other individuals on this who

12 worked on -- on this action matter for you?

13   I know you can tell by the rate that

14 $150 rate is going to be a project engineer, a

15 $400 rate is going to be the chief engineer, which

16 I assume is you. Is all of that correct?

17   A   Yes.

18   Q   And then $105 or $100 might be a project

19 manager?

20   A   A staff engineer-type person, yes. Could

21 be some project management there, too. But it's a

22 junior -- junior technical person. Could be a

23 project manager or it could be a staff engineer.

24   Q   Right. And do you have a list anywhere

25 of the actual project managers, project engineers

Page 53

1   and other individuals that worked on this case with

2   you?

3   A   I don't.

4   Q   Okay. And is there any way to determine

5   that, I mean, who was involved? It's -- it's not

6   indicated on the billing. I guess you'd have to

7   look back at each of these individual billing

8   records to determine which people were involved?

9   A   Right. I don't know if that exists or

10   not. The work I'm -- that was initial setup work

11   which probably -- you know, it's -- a lot of that

12   is just busy work.

13   It's very vital to us, but it's pulling

14   the specifications, getting Google aerial set up,

15   you know, reading through the initial accident

16   report.

17   So it's -- it's -- I don't know who did

18   that at that point in time. I know who's done it

19   now, but not at that time.

20   Q   Fair enough.

21   Well, just -- with regard to your

22   activities here in the month of December of 2021,

23   there's what appears to be two entries. Both are

24   for engineering analysis. One on the 17th and one

25   on the 21st. Is that --

G. Bryant Buchner , P.E.   January 23, 2024
Bryson, Santana and Joshua v. Rough Country, LLC

Page 54

1   A   Yes, sir.

2   Q   Is that correct?

3   A   Yeah, and that's -- and that was a good

4   example because more than likely I was involved in

5   the telephone conference, but it just says

6   engineering analysis.

7   So a junior engineer reviewed the

8   materials, had a telephone conference with the

9   client. I was also on that call looking at the

10   bill, but it just didn't show up on -- on my entry,

11   so.

12   This -- that's -- just trying to clarify.

13   Hope it helps.

14   Q   No, sure. That makes sense.

15   You would have put down all of the time

16   for your work on the case other than potentially,

17   you know, communications with the client; is that

18   right?

19   A   No. If I'm in the back working -- I say

20   in the back, most of the engineering goes on in the

21   back office, and I go up and I talk to somebody

22   about a case, you know, if it's an informal

23   meeting, we're going over what they're doing, you

24   know, that doesn't get billed.

25   If they come in here and schedule some

G. Bryant Buchner , P.E.   January 23, 2024
Bryson, Santana and Joshua v. Rough Country, LLC

Page 55

 1   time it'll -- it'll get captured a lot better.

 2   But, you know, my aiding the staff, is

 3   part of my job as the chief engineer, so that

 4   doesn't always get billed.

 5   If it's something specific that directly

 6   requires me to sit down and -- and, you know,

 7   schedule some time to do it, it will tend -- tend

 8   to show up on the bill.

 9   Q   All right. Well, is it fair to say that

10   in December you -- you billed 2.5 hours for

11   engineering analysis?

12   A   Yes.

13   Q   And you say there may be some additional

14   time you worked on this case, but you're not sure?

15   A   Right. Normally it's going to be a

16   little bit. But, you know, two and a half is what

17   we billed and two and a half is a good number.

18   Q   Right. And then if we turn to the next

19   page, this is for January of 2022, and it doesn't

20   appear that you billed any time during that time

21   period for work on this case, correct?

22   A   That is correct, yes.

23   Q   And if we go to the next invoice, this is

24   for the time period -- there's one day in

25   January -- but it's mostly for February of 2022.

G. Bryant Buchner , P.E.   January 23, 2024
Bryson, Santana and Joshua v. Rough Country, LLC

Page 56

1   And it doesn't appear -- it appears at this point

2   that you billed for one hour of work on 2/22?

3   A   Yes.

4   Q   All right. And you have virtual vehicle

5   inspection listed as your work.

6   Just what -- what does that mean exactly?

7   What's a virtual vehicle inspection?

8   A   Sure. James Fries, with my office

9   F-R-I-E-S, looked at both the vehicles, and he

10   included me via a Zoom-type device so that I could

11   -- he does the preliminary inspections. He

12   contacts me. I look at what I want to look at, we

13   talk about the work we're going to do, and then he

14   proceeds to do it.

15   So that's -- that's a convenient way to

16   involve me without me having to travel all the way

17   to Atlanta or wherever the vehicle happened to be

18   at that moment.

19   Q   Great. That's what I thought.

20   So he actually traveled -- and I can't

21   tell which day exactly. I guess, the CDR download

22   probably would have been loaded later, but sometime

23   in February he actually performed a visual -- a

24   physical -- blah -- a visual inspection of the

25   vehicle and a CDR download; is that correct?

G. Bryant Buchner , P.E.   January 23, 2024
Bryson, Santana and Joshua v. Rough Country, LLC

Page 57

```
 1        A     I think he did more than a visual, but

 2   yes, he did an inspection of both vehicles and a

 3   CDR download of the truck.

 4        Q     Yeah.  And when I say "visual," I just

 5   mean he was actually there?

 6        A     Yes.

 7        Q     Yeah.  And then I know he did scans and

 8   other things.  I -- I didn't mean to exclude that,

 9   but he was --

10        A     Okay.

11        Q     Yeah.  And this is the first time someone

12   from your office actually was physically present

13   with the vehicles involved in the incident?

14        A     Yes.

15        Q     Okay.  All right.  Just quickly going to

16   the next invoice which is No. 26627.

17              There's a charge here for "Other: Lift

18   Kit."  Can you explain that?  Were there multiple

19   lift kits purchased from Rough Country or what's

20   occurring there?

21        A     Right, we bought two lift kits.  I think

22   early on -- you know, so we bought a 4 1/2-inch and

23   6-inch lift kit from Rough Country just as

24   exemplars to have to look at.

25        Q     At this point had you determined whether
```

Page 58

1   a 4 1/2- or 6-inch lift was on the vehicle?

2   A   Not fully. We knew the front of the

3   truck had gone up 6 inches, but I think we had

4   indications it was a 4 1/2-inch lift, so we looked

5   at both of those.

6   I don't remember the exact process,

7   thought process at that time, though, but there was

8   -- there was always, you know, an observation that

9   it was near a 6-inch lift.

10   But also I believe we also had been told

11 or had documentation it was a 4 -- 4 1/2-inch lift.

12   Q   And so during the vehicle inspection in

13 February, Mr. Fries -- is that how you pronounce

14 his name?

15   A   Fries (pronunciation), yes.

16   Q   Yeah. That he had -- he was not able to

17 determine size of lift kit during that inspection?

18   A   Yeah, because of the confusion, yes.

19   Q   Right.

20   A   Quite possibly.

21   Q   And -- and what was the purpose of

22 obtaining exemplar lift kits? What -- what did you

23 intend to do with them?

24   A   Just more information. Clearly, I wanted

25 to see what the individual components were. The

1 Rough Country diagrams we had gotten from the

2 internet or wherever, they showed the same pictures

3 for the 4 1/2 kit and the 6-inch kit.

4   In other words, you can't tell from the

5 images that we were able to find the difference

6 between them. So we said, well, let's just --

7 let's order them and make sure we're, you know --

8 we're not being fooled by a picture, which we were

9 being fooled by a picture.

10   Q   When you say you're being fooled by a

11 picture, what do you mean? You couldn't --

12   A   The images that we were able to find for

13 a 4 1/2 and a 6-inch lift kit were the same image.

14   So we -- we -- we -- we realized that

15 that was not -- that the information we could get

16 was not reliable. So we said, okay, let's just --

17 let's order the kit.

18   Q   Are you relying upon your inspection of

19 the exemplar lift kits to give your opinions in

20 this case?

21   A   I would say no because we have

22 documentation of it being a 4 1/2-inch lift kit

23 now, so I would say no.

24   Q   Okay. I was hoping you would say that.

25 I didn't want to waste your time asking questions

G. Bryant Buchner , P.E.   January 23, 2024
Bryson, Santana and Joshua v. Rough Country, LLC

Page 60

1   about what you ordered and when you ordered and all

2   of that stuff, but if --

3   A   Sure. Thank you.

4   Q   So moving ahead to Invoice 27114-A. And

5   there's a charge on September 29th of 2022 for

6   "Base: vehicle scan processing."

7   And then the next invoice has similar

8   charges in October for "Base: scene drawing; Base:

9   Vehicle drawing; Base: scene/vehicle drawing."

10   Just kind of tell me what -- what do

11   those represent and what's going on there.

12   A   Sure. Base refers to just objective data

13   that's visible. The shape of the vehicle. The

14   outline from the measurements. The shape of the

15   scene.

16   The officers did a great job of

17   photographing and making photo mosaics. Well, we

18   turned those into drawings, you know, so that we

19   can make measurements on them.

20   You know, it's just -- it's the

21   background work to help with the later on detail

22   reconstruction. This is foundational work that's

23   going on that you're looking at here.

24   The scans were taken. We have to process

25   the scans, we can use it to make measurements and

G. Bryant Buchner , P.E.   January 23, 2024
Bryson, Santana and Joshua v. Rough Country, LLC

Page 61

1   that type of stuff.

2   Q   That's what I thought. So these are

3   processing the scans that Mr. Fries took back in --

4   in February of that year?

5   A   Yes.

6   Q   All right. And scene drawing, have you

7   guys -- no one had been to the scene in October of

8   2022, correct?

9   A   That's correct.

10   Q   So when you say base scene drawing,

11   what's that mean?

12   And then he's using photographs that the

13   police took that you referenced, but how are

14   they -- they doing that?

15   A   The officers made a scale diagram. So we

16   import their scale diagram. So we draw on top of

17   them. We also use aerials.

18   We're going to check their work, and

19   that's what's going on here. And that can all be

20   done, you know, in-house with information we have

21   available over the -- you know, from Google and

22   other aerial services we use and that type of

23   stuff. So that's all that's going on here.

24   Q   Okay. Moving forward to Invoice 27394-A,

25   there's a reference to exemplar car seats.

G. Bryant Buchner , P.E.   January 23, 2024
Bryson, Santana and Joshua v. Rough Country, LLC

Page 62

1   Was there more than one exemplar seat

2   purchased?

3   A   I only remember one.

4   Q   All right. And do you remember the date

5   of manufacture of that exemplar seat?

6   A   Excuse me. I coughed.

7   No, I don't remember the date of

8   manufacture. It was the same seat as far as we

9   could tell, though.

10   I don't remember everything that we went

11   through to tell that, but it was -- really it was

12   the shape.

13   We were going to test it for -- we were

14   going to use it as a mockup to look at the geometry

15   of the seat and they matched perfectly there.

16   Q   And you -- you used it to place it in the

17   exemplar 2015 -- I'm sorry, the exemplar 2010 Ford

18   Escape that you used in the -- for the model?

19   A   Yes.

20   Q   All right. And do you have any

21   documentation anywhere in your file as to when that

22   was purchased, who it was purchased from, what year

23   it was manufactured, anything like that that would

24   validate that it was the same as the seat involved

25   in the subject crash?

G. Bryant Buchner , P.E.   January 23, 2024
Bryson, Santana and Joshua v. Rough Country, LLC

Page 63

1   A   Well, I validated it looking at it

2   because that's -- that's what I wanted.

3   But we can -- I'm sure there's some

4   documentation. We have the seat itself somewhere

5   that we could provide.

6   So whatever someone needs, we could -- we

7   could go back and crowbar it out of a file

8   somewhere or maybe make the seat available.

9   Q   Sure. Well, thanks.

10   I'm trying to get through this as fast as

11   I can and then we can take a break, if that's okay

12   with you. Don't want to leave it up to me to make

13   you not be able to have a break.

14   A   Just for -- that was really hard to

15   understand. All you said was we'll take a break

16   when we need to, thank you, but...

17   Q   Sorry for my poor audio. I apologize. I

18   was saying -- are you okay for us to just finish up

19   with these bills before we take a break? I didn't

20   mean to go on and on without giving you an

21   opportunity for a break.

22   A   Thank you. I'm -- I'm waiting on you to

23   get to the end of bills. I think that's a great

24   idea.

25   Q   Okay. Great.

G. Bryant Buchner , P.E.   January 23, 2024
Bryson, Santana and Joshua v. Rough Country, LLC

Page 64

1   All right. I've now put up there Invoice

2   29108-A from September 30th of 2023.

3   And there appears to be a bill here of

4   14.75, I guess that's hours, and that's at the rate

5   of 450. So I assume that's you on September 6th of

6   2023.

7   Would that reflect you actually making a

8   trip to see the accident vehicles in person?

9   A   Yes.

10   Q   And that's the first time you actually

11   saw them in person?

12   A   Right, before I -- via video during the

13   inspections, but I actually was there in person for

14   the first time here.

15   Q   Sure. And how much of this 14 -- does

16   the 14.75 include travel time as well?

17   A   I -- I wouldn't think so, but I don't --

18   I don't remember exactly. I was there -- in my

19   memory, I was there for seven or eight hours, so

20   it's probably just -- maybe just one-way travel.

21   We were there for a long time.

22   Q   That's what I was getting at. So you'd

23   estimate you visually inspected the vehicles -- and

24   I know you might have done other things other than

25   just look at it, but you were there for seven to

G. Bryant Buchner , P.E.   January 23, 2024
Bryson, Santana and Joshua v. Rough Country, LLC

Page 65

```
 1   eight hours on that day?

 2       A    That's an estimate.  I don't -- I don't

 3   remember exactly how many, but it was -- I was

 4   there for, yeah, more than five I'm certain of.  I

 5   -- I don't know the exact time.

 6            So looking at that it looked like --

 7   14.75 looks like too short a day to drive from here

 8   to there and do that and get back, but...

 9            And -- yeah, I had -- I had help with me,

10   too, that's not on the bill.  I don't know why.

11       Q    I would assume someone was there with

12   you, but that -- that person's time is not

13   reflected on this bill?

14       A    Right.  One of the project engineers or

15   the project engineer for this case went with me.

16   She had already seen the vehicle once before, so.

17       Q    And what was her name?

18       A    Melanie Porter, P-O-R-T-E-R.

19       Q    Right.  And I did not have anywhere here

20   where I saw that Melanie had visited the vehicles

21   in person prior to this, but -- but you're saying

22   she did and maybe just wasn't reflected on the

23   invoices?

24       A    No, she did.  She -- when the car seat

25   was put in the accident vehicle, she did that and
```

Page 66

1   scanned. So you alluded at it a few minutes ago.

2   That was -- Ms. Porter did that. So she had seen

3   the vehicles before.

4   Q   All right. And I think if you look at

5   the next invoice which has got the same number, I

6   think it's the -- I should have shown you the first

7   page of it.

8   You'll see at the very bottom where it

9   appears that she billed the same amount of time for

10 "Document accident vehicles;travel" on 9/6.

11   A   You're right. Thank you.

12   Q   Yeah, I didn't --

13   A   I didn't want to leave anything out.

14   Q   Yeah, I didn't realize this was the same.

15 Because this was basically the same invoice. I

16 apologize.

17   On this invoice here where there is a

18 reference to "Engineering analysis; review file and

19 reconstruction," there are quite a number of

20 entries that reflect that.

21   Is this reference to reconstruction --

22 what is that referencing?

23   Is it referencing your reconstruction of

24 the actual accident or is it referencing the HVE

25 reconstruction or simulation?

G. Bryant Buchner , P.E.   January 23, 2024
Bryson, Santana and Joshua v. Rough Country, LLC

Page 67

1   A   It could be any of that. Depending on

2   how someone put it on their time sheet, we wouldn't

3   -- we wouldn't differentiate between those two

4   activities.

5   Q   So there's no way to differentiate from

6   your invoices how much time was spent on the HVE

7   simulation?

8   A   Right. The HVE is really a small part of

9   the total work. We -- we ran the calculations, but

10   it's -- it's in here somewhere. I don't know where

11   it is. But, yeah, it's -- it's just a tool. But

12   most of this would not be related to HVE.

13   Q   Right. Do you know how much time was

14   spent on the HVE simulator?

15   A   No, sir, not off the top of my head.

16   Q   Do you know when it was performed?

17   A   I -- I don't have a date memory. I --

18   people have to still me it's 2024, so, no.

19   We've changed. Can I take a break?

20   Q   Yeah, I was just looking at some real

21   quick. We can take a break.

22   A   If we're not done with the bills, let's

23   go back and finish them. I -- I didn't mean to

24   interrupt you. I thought you were shifting gears.

25   Q   Well, my only other real question about

G. Bryant Buchner , P.E.   January 23, 2024
Bryson, Santana and Joshua v. Rough Country, LLC

Page 68

1   billing is that the last one that I had on the

2   screen was the last one that we have in time.

3   A   Okay.

4   Q   And I was curious whether there's been

5   additional invoicing since then?

6   A   No, there has not.

7   Q   All right. And I put my -- let me take

8   it off of sharing.

9   You've obviously done work since the end

10   of September of 2023 on this case, correct?

11   A   Yes.

12   Q   And your report was in October of 2023.

13   Since the issuance of your report, have

14   you done any work on this case other than preparing

15   for today?

16   A   Other than just trying to stay up to

17   speed, no. There's only been Bate stamping things

18   and, you know, I think the depo's been scheduled a

19   couple of times. I don't mean to infer anything.

20   It's just -- yeah, it's been -- but I --

21   practically I don't know that any real work's

22   happened, but I could be wrong.

23   Q   Well, that's what I'm getting on. There

24   -- you're not aware of any additional simulations,

25   any additional trips to the vehicles, trips to the

G. Bryant Buchner , P.E.   January 23, 2024
Bryson, Santana and Joshua v. Rough Country, LLC

Page 69

1   scene, anything of that nature, that's occurred in

2   this case since the time of these bills?

3   A   That's correct.

4   Q   Okay. And one last thing on this bill.

5   There's a bill for "Scene visit; travel" on

6   July 14th of 2023.

7   I'm assuming that's the first time that

8   you visited the scene of the accident?

9   A   Yes.

10   Q   And it's the first time that anyone from

11 your office visited the scene of the accident?

12   A   Yes.

13   Q   And the purpose of that visit was to scan

14 the scene of the accident?

15   A   No. The officers did -- we confirmed

16 through our drawings we thought that their drawings

17 were accurate, so our work -- I went to the scene

18 personally to look at it, make sure we weren't

19 missing some information that we needed.

20   I don't remember scanning it that day. I

21 don't think I needed to. So, I think I took

22 photographs and we're happy using the officer's

23 foundation of what they documented. They did a

24 fine job.

25   Q   All right. In totaling these invoices, I

G. Bryant Buchner , P.E.   January 23, 2024
Bryson, Santana and Joshua v. Rough Country, LLC

Page 70

1   have approximately $65,000 in billings reflected on

2   this invoice. I wouldn't expect you to know off

3   the top of your head the total amount.

4   But does that sound like a fair

5   representation of your billing through the end of

6   September 2023?

7   A   Oh, yes, sir.

8   Q   All right.

9   MR. HILL: Why don't we take a break now.

10 I appreciate it.

11   THE WITNESS: All right. Thank you,

12 Rick. Back in a moment, Mr. Hill.

13   VIDEO TECHNICIAN: The time is 12:32. We

14 are off the record.

15   (Recess taken.)

16   VIDEO TECHNICIAN: The time is 12:48. We

17 are back on the record.

18   MR. HILL: Thank you.

19 BY MR. HILL:

20   Q   One last question that kind of relates to

21 what we were just talking about. I thought I'd

22 start with that.

23   And that is, you indicated from the

24 billing records you can't tell when the simulation

25 was run using HVE, but you mentioned that after it

G. Bryant Buchner , P.E.   January 23, 2024
Bryson, Santana and Joshua v. Rough Country, LLC

Page 71

1 was run you would print out the reports it

2 generated and you have hard copies of those?

3   A   That's my understanding, yes, sir.

4   Q   All right. And when would those have

5 been printed out? Would it have been right after

6 the simulation was run?

7   A   Yeah, it says 10/13 of '23.

8   Q   Right. So that would be -- would that

9 indicate to you that that was the date that the

10 simulation was ran?

11   A   That would be my starting preliminary

12 belief, yes, sir.

13   Q   All right. Great.

14   All right. Let me see if I can share my

15 screen again.

16   A   Okay. Let me update that.

17   Q   All right.

18   A   See, if I'm looking at 10/13 of '23,

19 that's a print date. The report says 10/12 of '23,

20 and we had referenced it. So apparently in

21 collecting our materials that went into the report

22 it was printed.

23   So it was run maybe a day or two before,

24 but the reports were printed the day after the

25 report just for filing. Thank you.

G. Bryant Buchner , P.E.   January 23, 2024
Bryson, Santana and Joshua v. Rough Country, LLC

Page 72

1   Q   All right. But you -- but you believe

2   the simulation was run a day or two before that?

3   A   Yes. I don't know if it was a day or two

4   or a week or two, but before that, yes, sir.

5   Q   All right. So you believe the date on

6   this is just the day it was printed, not the date

7   it was run?

8   A   We're -- we're swapping -- we're being

9   too fine here. It could have -- it was definitely

10 run before the report went out. What -- the

11 printing we have is on the -- the day after the

12 report went out.

13   Someone may have rerun it the day after

14 to generate the reports, but -- but all the

15 information I needed and wanted, I've been able to

16 look at before the report. I don't know whether it

17 was run and just wasn't printed or whether it was

18 rerun for the purpose of printing after the date.

19   Q   I understand.

20   A   Thanks.

21   Q   So you would have referenced the digital

22 file in preparing the report and not necessarily

23 needed a printed version of it?

24   A   No, I -- I like to work off of a printed

25 version. I -- I -- but I trust the staff to print

G. Bryant Buchner , P.E.   January 23, 2024
Bryson, Santana and Joshua v. Rough Country, LLC

Page 73

```
 1   copies and put them in the file.  I'm -- I'm

 2   working on a printed version and I'll throw mine

 3   away when I get done.  They're supposed to give me

 4   a copy and have a copy.

 5           But it's kind of messy, too, because, you

 6   know, we're -- we're really not worried about

 7   printing at that point in time, we're worried about

 8   engineering, which is, believe it or not, two

 9   different worlds.

10       Q    Sure.

11           MR. HILL:  I'm sharing the screen.  We

12   can mark this as whatever we're on now.  I think

13   Exhibit 6 maybe?

14           THE COURT REPORTER:  Correct.

15           (Deposition Exhibit 6 marked.)

16   BY MR. HILL:

17       Q    And this is -- I'm sure you've got a copy

18   of this there in front of you, Mr. Buchner.  You

19   probably -- it would be easier for you to refer to

20   your hard copy, but this is your October 12th, 2023

21   report we were just mentioning?

22       A    Yes.

23       Q    It is Bates labeled Bryson 1350 through

24   1361.

25           Have you amended or changed or done
```

G. Bryant Buchner , P.E.   January 23, 2024
Bryson, Santana and Joshua v. Rough Country, LLC

Page 74

1   anything to this report since October 12th of 2023

2   or is this still your current version of your

3   report?

4   A   Still my current version. I only have

5   one typo in the report. We said the airbags of the

6   F250 deployed, they didn't. That was a -- that was

7   a typo somewhere in the report. Other than that,

8   no, sir.

9   Q   All right. So have you gone back and

10 changed the report or is that -- you're just

11 pointing out something you noticed in reviewing for

12 the deposition?

13   A   Yes.

14   Q   Okay. And I'm assuming you have that in

15 front of you so I don't have to have it up on the

16 screen?

17   A   I do, but I'm -- I -- it's very easy for

18 me to read it if you'll leave it up, but however

19 you want to do it.

20   Q   Okay. Great. Well, let me -- hold on

21 one second. Just -- this is related to it.

22   All right. I've now put on the screen

23 Bryson 1362 through 1374. And in your digital

24 files this is entitled Support for your report.

25   Is this something that is part of your

G. Bryant Buchner , P.E.   January 23, 2024
Bryson, Santana and Joshua v. Rough Country, LLC

Page 75

1   report, is it just like an attachment to the

2   report? Like how would you describe this document?

3   A   I -- I don't know. It's -- it's

4   materials that I think help you interpret the

5   report if you want to dig deep. They're reference

6   materials.

7   I don't remember whether it was formally

8   attached or just sent as support information, you

9   know, for the reader's benefit. I -- I don't

10   remember. I don't know how to call it.

11   MR. HILL: All right. We'll mark what I

12   just mentioned, 1362 through 1374, as Exhibit 7 if

13   I'm correct.

14   (Deposition Exhibit 7 marked.)

15   BY MR. HILL:

16   Q   And you're okay with the title "Support"?

17   A   Report support, sure.

18   Q   All right. Sure.

19   All right. So here's the report. And if

20   I don't have it on the right page, tell me at any

21   time, but it's about time we got down to your

22   report.

23   So I appreciate you -- you having the

24   patience going through all of that introductory

25   stuff. Hopefully, that will make a lot of this go

G. Bryant Buchner , P.E.   January 23, 2024
Bryson, Santana and Joshua v. Rough Country, LLC

Page 76

```
 1   faster.

 2        A    Okay.

 3        Q    On -- on Page 1, you note that the posted

 4   speed limit was 55 miles per hour at this incident.

 5        Did you during your site visit to the

 6   scene confirm that when you were at the scene?

 7        A    No, I can go back and look.  But I'm

 8   aware that in one place the officers said 45, and

 9   in another place they said 55.

10        I -- I didn't have a thought to go back

11   and check my scene visit to see which one it was.

12   It doesn't make a difference to my opinions.

13        Q    Sure.  It makes no difference, we're just

14   -- I just want to make sure we're on the same page

15   with any typos and so forth.

16        Like on the very next page, Page 2, under

17   Work Performed, you said that your group inspected

18   and documented the two vehicles between February

19   2021 and September 2023?

20        A    Yes.

21        Q    Is that a typo there?  Is that meant to

22   be February 2022?

23        A    As a matter of fact, it is.  Thank you.

24        Q    No problem.

25        At one place in your material the -- if
```

G. Bryant Buchner , P.E.   January 23, 2024
Bryson, Santana and Joshua v. Rough Country, LLC

Page 77

1   you look down here where you're listing the

2   exemplar vehicles, you have a 2008 Ford Escape

3   exemplar vehicle.

4   There was some notification in your

5   records that the exemplar vehicle was actually a

6   2010 Ford Escape.

7   Do you know which one is accurate?

8   A   I'm thinking to see if I can give you a

9   clear answer and I don't remember the date of that

10 vehicle, so I'd have to do a little research.

11 It's --

12   Q   Okay.

13   A   And it's specific to the exemplar.

14   Q   As we go through we may look at some

15 documents that may clear that up. Just was curious

16 if that was just another typo or if that's actually

17 accurate.

18   A   Thank you. I'll -- I'll watch to help

19 clear that up if we can.

20   Q   All right. Next we're on Page 3 under a

21 section entitled Observations. The very last

22 bullet point under Observations related to the

23 Escape. You say: "The rear bumper of the Escape

24 was only slightly bent."

25   A   Yes.

Veritext Legal Solutions
800.808.4958   770.343.9696

G. Bryant Buchner , P.E.   January 23, 2024
Bryson, Santana and Joshua v. Rough Country, LLC

Page 78

1   Q   What do you mean by "slightly bent"?

2   A   It was very unremarkable in the amount of

3   damage to it. In other words, I've seen cars in

4   minor collisions that had bumpers that were bent

5   this badly and still on the vehicle, you know, and

6   I'm talking about a vehicle, the vehicle drives off

7   and, in fact, you have to look under the bumper

8   cover to see this damage because the bumper cover

9   goes in and bounces out.

10   And so the photos show what it looked

11   like, but it was very unremarkable in the amount of

12   damage to it relative to the severity of the crash.

13   Q   Was the bumper of the Escape on the

14   vehicle when you inspected it?

15   A   By that time it was off if my -- it was

16   hang -- it was -- it had dropped off. Gone after

17   the accident hanging by a thread more or less, but

18   then by the time I saw it, it had come completely

19   off.

20   Q   Sure. And did you look at the brackets

21   that support the rear bumper?

22   A   Yeah, they were still on the bumper.

23   They had torn away from the frame rails or the

24   frame rails had torn away.

25   So, yeah, they had for -- damage for the

Page 79

1   bumper had allowed the bumper to come off, but the

2   metal that it had been bolted to was still attached

3   to the bumper. And the metal had been ripped and

4   torn apart to allow it to dislodge.

5   Q   Gotcha. And the holes in the brackets,

6   were they deformed or elongated? Would that be a

7   proper way to describe it?

8   A   I don't remember that. I'd have to go

9   back and look. I -- I remember more the more

10   significant frame rails were basically -- we call

11   them frame rails. That's what I like to call them,

12   but the unibody rails, were -- were -- were torn.

13   But we can look at the photos. I don't -- I don't

14   remember the holes themselves being damaged.

15   Q   All right.

16   A   If I might interrupt.

17   Q   Sure.

18   A   The exemplar that we saw was manufactured

19   of 2 of '10. So it actually could have been a --

20   yeah, 2 of '10, so it was a -- probably a 2010

21   vehicle.

22   Q   Right. And then we're talking about the

23   Ford Escape exemplar that you used in your

24   analysis?

25   A   Yes, sir.

G. Bryant Buchner , P.E.   January 23, 2024
Bryson, Santana and Joshua v. Rough Country, LLC

Page 80

1   Q   All right. All right. The second to

2   last bullet point under Observations on Page 3 you

3   indicate that "The Escape's measured weight was

4   3,410 pounds at the inspection on February 22nd,

5   2022."

6   A   Yes.

7   Q   How did you measure the weight of the

8   Escape on that day?

9   A   We have scales that we carry with us in

10 our field work trucks. We drove it upon those

11 scales and photographed and wrote down the

12 measurements, the weights of the Ford --

13   Q   Right.

14   A   -- tires.

15   Q   Right. Like wheel scales, I guess, would

16 be a common term for those?

17   A   Sure.

18   Q   Yeah. And -- and who manufactured those

19 wheel scales, do you know?

20   A   I don't remember. We've had them for a

21 long time. Same manufacturer we've been using for

22 20 years.

23   Q   Do you know the capacity and readability

24 of those scales?

25   A   Some of them have a 10, plus or minus 10,

G. Bryant Buchner , P.E.   January 23, 2024
Bryson, Santana and Joshua v. Rough Country, LLC

Page 81

1   some have a plus or minus 20, I think, but I'd have

2   to go back and look on them.

3   Q   Not sure which -- which one you used in

4   this case?

5   A   We have -- we have local ones we carry,

6   yes. I don't remember off the top of my head.

7   Q   Okay. And they're scales you own? Like

8   you own those, right?

9   A   Yes. Yeah, they're standard. We use

10 them, you know, every week.

11   Q   All right. How often do you calibrate

12 those?

13   A   Well, we -- we self-check them by putting

14 our vehicles on them. So we -- we know when one's

15 out of calibration. So we do a calibration check.

16   Whenever we find an issue, we'll have

17 them recalibrated by the manufacturer. So it's on

18 an as-needed basis.

19   Every now and then we'll periodically

20 just send them off anyways. But I don't -- I don't

21 remember the exact calibration schedule, but we are

22 checking the calibration.

23   I used to do calibrations at the other

24 firm I used to work at. So as long I'm getting the

25 right reading, I'm happy.

G. Bryant Buchner , P.E.   January 23, 2024
Bryson, Santana and Joshua v. Rough Country, LLC

Page 82

1   Q   Right. But you can't say here today when

2   the last time they were calibrated prior to your

3   using them on February 22nd of 2022?

4   A   Right. I just know that we do the

5   calibration checks regularly so that we'll -- if

6   there's a problem, we take that one, that one scale

7   out of rotation and, you know, put another one in

8   the rotation while that one gets calibrated.

9   Q   Right. Given the weight you measured

10   that day of the post incident version of the

11   Escape, do you have an opinion about the total

12   weight of the Escape at the time of the crash?

13   A   Yes, I do. It's in my materials. But

14   basically we just add the weight of the occupants

15   to it. It still had the --

16   Q   Right.

17   A   -- it still had the luggage in the back.

18   It wasn't luggage, but the cargo in the backseat

19   and the vacuum cleaner and a few other things.

20   Q   Yeah, did you in estimating the weight at

21   the time of the crash account for the items in the

22   cargo hold?

23   A   Yeah, they were in the car.

24   Q   Right. But I'm saying -- they were in

25   the car at the time you weighed it?

G. Bryant Buchner , P.E.   January 23, 2024
Bryson, Santana and Joshua v. Rough Country, LLC

Page 83

1   A   Yes.

2   Q   Weighed the vehicle?

3   A   Yeah.

4   Q   Okay. Do you know at the time that you

5   weighed the car with the cargo in the cargo hold

6   whether those items were in the same position they

7   were in after the crash?

8   A   Reasonably, yes. They were in the

9   backseat. I mean, they -- I say in the backseat.

10   They were in the -- behind the backseat in the

11   hatch area, in front of the hatch.

12   That's my recollection of -- that's where

13   they were when I saw them, and that's my

14   recollection of where they were when we weighed it.

15   Q   Yeah. And what I'm trying to get it is,

16   did -- I don't know if someone took it, took that

17   cargo out and you put it back in to weigh the

18   vehicle or it hasn't been touched since the time of

19   the crash and so you got to see it sort of how it

20   would have looked at the scene.

21   You know, what is your understanding as

22   to the location of those items when you saw them in

23   relation to where they were located at the time of

24   the crash? That's just what I'm trying to get at.

25   A   My understanding and my recollection is

Page 84

1   that they were reasonably positioned as they were

2   at the time of the crash, but it would not change

3   any of my analysis if for some reason someone had

4   put the vacuum cleaner in the front seat. We'd

5   still have the right weight for the calculations.

6   But my belief is they were in their

7   proper locations.

8   Q   And did you photograph the location of

9   those items when you inspected the vehicle in -- in

10 February of 2022?

11   A   I would say yes, but I certainly don't --

12 out of the thousands of photos we have, I don't

13 remember that particular photo. We can go look if

14 you want, but I would say that we're supposed to

15 document where everything is when we get there, so

16 I believe it's documented.

17   Q   Sure. Kind of what I'm getting at is,

18 did you do any analysis of the -- and let me put it

19 this way -- of what may have impacted the child's

20 head who was in the -- the rear seat? What actual

21 physical item might have impacted his head?

22   A   Well, I'm not the biomechanic. I did do

23 an analysis, though. I'm -- I'm certainly not

24 opining anything hit the child's head because

25 that's not my area of expertise, but I can tell you

G. Bryant Buchner , P.E.   January 23, 2024
Bryson, Santana and Joshua v. Rough Country, LLC

Page 85

1   that the rear seat was pushed to less than a foot

2   -- within a foot of the front seat.

3   In other words, the child's headrest area

4   of the car seat was pushed to less than a foot away

5   from the seat in front of it.

6   So that's information I have that might

7   be helpful, but I'm not here to talk about the

8   child's head hit or if it did hit anything. It

9   seemed logical it did, but I'm not -- that's not my

10 area of expertise.

11   Q   I understand. And so you're not a

12 biomechanical expert who's providing -- going to

13 provide any testimony about injury mechanisms or

14 anything like that in this case?

15   A   Right. But I will give the measurement

16 between the headrest and the seat and the back of

17 the seat in front of it was less than a foot

18 because that's -- that's part of my geometric

19 analysis that I've done of the crush of the

20 vehicles.

21   Q   Right. All right. Turning to Page 4

22 here. Make sure I'm on the right page, if you give

23 me one second.

24   Here at the top of Page 4, you make a

25 couple of comments about the F250 tires.

G. Bryant Buchner , P.E.   January 23, 2024
Bryson, Santana and Joshua v. Rough Country, LLC

Page 86

1   The first being that the F250 tires were

2   about half an inch larger radius than stock tires.

3   And you're commenting here on the actual vehicle

4   involved in the incident, correct?

5   A   Yes. Which line are you looking at?

6   Q   It's at the top of Page 4.

7   A   Got it.

8   Q   I don't know if you can see my cursor.

9   A   Yes, that -- so that is the action --

10   accident tires. Versus the stock tires.

11   Q   All right. So in the previous slide you

12   mentioned that the ground clearance from original

13   to the ground clearance of the subject vehicle was

14   .75 inches.

15   A   Yeah, I said about 10 inches because I'm

16   trying to measure it when I'm laying on the ground

17   underneath the truck. And so, I'm -- that's a

18   measurement that I'm trying to make on a damaged

19   truck.

20   The radius on the tires is just a -- it's

21   a published value or a -- for the tires. It's --

22   given the size of the tires, that's what it's

23   supposed to be.

24   So a quarter inch variability there is

25   not an issue for me.

G. Bryant Buchner , P.E.   January 23, 2024
Bryson, Santana and Joshua v. Rough Country, LLC

Page 87

1   Q   Sure. I understand. I'm just trying to

2   get an explanation for why if it's only a half-inch

3   larger radius than stock tires, how is the ground

4   clearance .75?

5   A   Yeah, and you've also got -- there can be

6   tread differences on the tires itself that --

7   actually, you know, so the radiuses aren't perfect

8   calculations either. So, you know, all of that

9   being within quarter inches, fine with me.

10   Q   Sure. Right here at the --

11   A   If I might interrupt again.

12   Q   Sure.

13   A   You asked about weight earlier. The

14   spare tire for the car got knocked off. So when we

15   weighed it, I don't think it was in the back. I

16   think it was in the back -- I think it was

17   somewhere else, so. Because it was hard -- really

18   hard to get in and out of the back.

19   So I'm just pointing that out. That

20   would be the -- the wild card in -- in weighing it,

21   but -- so the weights could shift around based on

22   where the spare tire was.

23   Q   Sure. But you're going back to the

24   Escape when you -- the subject Escape?

25   A   Yes, sir.

Veritext Legal Solutions
800.808.4958   770.343.9696

G. Bryant Buchner , P.E.   January 23, 2024
Bryson, Santana and Joshua v. Rough Country, LLC

Page 88

1   Q   And the bumper was off as well. Did

2   you -- did you put that on the scale in any way or

3   was that another item that would have been --

4   A   No.

5   Q   -- not included in your measurement?

6   A   Well, it would have been just set on the

7   back of the vehicle for the weight.

8   Q   Right, but the spare tire and rim, there

9   wasn't a way to set it on the back of the vehicle

10   as part of the measurement?

11   A   Right. So it's either floating around

12   or -- I mean, it's even a chance it wasn't in

13   there. But it's -- it was in the backseat as best

14   as I can tell just sitting here.

15   So there's a little bit of variability

16   because, you know, it was knocked off. And so it

17   -- I'm just pointing that out because I thought it

18   was something I forgot to mention in the previous

19   answer.

20   Q   Sure. Thanks.

21   Speaking of weight, the next question is

22   about the weight of the F250. Your bullet point's

23   saying it was 8,040 pounds. I'm assuming you

24   weighed it with the same scales?

25   A   Yes.

G. Bryant Buchner , P.E.   January 23, 2024
Bryson, Santana and Joshua v. Rough Country, LLC

Page 89

```
 1        Q    And was the cover over the -- the cargo
 2   area of the pickup truck, was that on the F250 when
 3   you weighed it?
 4        A    Well, however it shows up in our
 5   inspection photos, I'll have to go back and look.
 6   When you say cover, I --
 7        Q    Yeah.
 8        A    Go ahead.
 9        Q    I'm always bad at this word, but, you
10   know, the tonneau cover, I don't know how --
11   exactly how you actually pronounce that.
12        A    Yeah, let me --
13        Q    That's the cover I'm talking about.
14        A    I don't remember there being a tonneau
15   cover on it when we saw it.  So might have to
16   investigate that.
17             I don't remember adding a weight to the
18   tonneau cover if it had a tonneau cover, but I'll
19   have to look to see if -- because that term has got
20   a lot of different term -- ways it can look.
21             So let me just look at a date of accident
22   photo real quick, please.
23        Q    Sure.
24        A    All my computers are apparently working
25   on video right now.
```

Page 90

```
 1        Q    We can come back to that.  I was just

 2   trying -- you were talking about things that may

 3   not have been included in the measurement of the

 4   weights of the vehicle, so I thought I would

 5   mention it.

 6        A    Okay.

 7        Q    Again, you can figure it out when we take

 8   a break.

 9        A    Sure.  No problem.  Thank you.

10        Q    All right.  Under the section entitled

11   "Based on the EDR of the -- of the F250," you say

12   the impact delta-V was 17.92 and the

13   longitudinal -- you know, longitudinal and .14

14   lateral.

15             Is there any difference between the term

16   impact delta-V and just delta-V?  That's a term I

17   hadn't heard before.

18        A    Just to clarify, delta-V is a generic

19   term.  It can be applied generically where people

20   understand it, but impact delta-V to me is making

21   sure that we're understanding that during the

22   collision the actual delta-V is what we're using

23   here.

24             I don't think it --

25        Q    I understand.
```

Page 91

```
 1        A    I don't think it makes any difference at

 2   all, it's just the way we happen to write it, but

 3   we're talking about the collision between the two

 4   vehicles.

 5        Q    Right.  Just wanted to make sure that was

 6   the case in case there was some difference between

 7   delta-V or im- -- and impact delta-V.

 8        A    Sure.

 9        Q    And you agree that the -- the delta-V

10   here listed should be in the negative?

11        A    No, negative/positive.

12        Q    Doesn't matter?

13        A    Yeah, it's -- negatives and positives is

14   relative anyways.  But if -- if someone wants to

15   say it's technically supposed to be negative with

16   some convention, I'm -- I'm fine with that.

17             We're -- we're just talking about the

18   overall magnitude.  We understand that the truck

19   was slowing down.  We're not trying to misrepresent

20   that.  It's just the way we wrote it.

21        Q    Sure.  And this is where you talk about

22   airbag deployment.  Is that where you said that was

23   a typo?

24        A    Yes.

25        Q    All right.  And do you have any opinion
```

G. Bryant Buchner , P.E.   January 23, 2024
Bryson, Santana and Joshua v. Rough Country, LLC

Page 92

1   as to why the airbag did not deploy on the F250?

2   A   Probably because it hit the -- a very

3   soft area of the Escape.

4   In other words, the airbag deployment is

5   based on the -- the rate of deceleration largely of

6   the vehicle, and the deceleration is going to be

7   less when you run into something soft and mushy.

8   Q   Did you, in looking at the download, note

9   that there was an airbag error code on the

10 download? Do you recall that?

11   A   I don't remember that, no, sir.

12   Q   There was a fault code of U3000-49

13 indicating an error in the electronic module.

14   Could that be an explanation for why the

15 airbag didn't deploy?

16   A   I might have to go back and look at it.

17 It hasn't been a concern of mine. You asked a

18 question and I answered it. I'll do more

19 investigation --

20   Q   Sure.

21   A   -- tonight if it's important. It hasn't

22 really been important to the work we've done.

23   And to go back one, thank you for always

24 letting me do that.

25   The tonneau cover was on it when we

Page 93

1   weighed it, it's just open. I -- because the job

2   box and everything was on it, I think, but it's --

3   it was definitely on there when we weighed it.

4   Thank you.

5   Q   Okay. Great. Thanks. I'm glad I

6   pronounced that word correctly. I was afraid you

7   were going to come out with a different

8   pronunciation and make me look foolish.

9   A   Together we'll try to get these things

10   right.

11   Q   Yeah.

12   All right. Just so we're clear on a

13   couple of things. How would you define "end of

14   event time"?

15   A   Where is it written, please, sir?

16   Q   Well, it's from 49 C.F.R. 563. Kind of

17   the terms that that code section uses.

18   A   Well, I -- I can see -- in the C.F.R. it

19   may have its very specific definition. I wouldn't

20   want to disagree with that.

21   But end of event time I would normally

22   just use as when the event in the download or when

23   the event in the black box data ends.

24   It wouldn't have to be associated with a

25   specific event. It could just be when they ended

G. Bryant Buchner , P.E.   January 23, 2024
Bryson, Santana and Joshua v. Rough Country, LLC

Page 94

1   reporting information.

2   So it's kind of a gray term, that -- that

3   depending on the context we're using it in, might

4   have slightly different meanings.

5   Q   Sure. And same with regard to the term

6   "time zero." Is that different?

7   A   Well, time zero, we use it all the time

8   in many different situations. So it -- it -- it

9   floats as well.

10   Time zero is what we normally call

11   impact, but I'm more than happy to define it

12   another way for the purpose of a conversation.

13   But time zero is normally the

14   collision -- time of collision.

15   Q   Perfect. I just wondered if I used those

16   terms later, I wanted to make sure we were on the

17   same page.

18   A   Sure.

19   Q   All right. Be happy I skipped over two

20   pages there.

21   All right. This is Page 6 of your

22   report, and I believe this is where you start to

23   describe how you used exemplar vehicles that you

24   scanned to match up and determine the crush damage,

25   the static crush damage that occurred in the actual

Page 95

```
 1   accident.

 2            Is that a fair description of what is

 3   being discussed here just so I understand that

 4   we're on the same page?

 5        A    That's part of it, sure, yes, sir.

 6        Q    All right.  And the exemplar F250 you

 7   used was a 2015?

 8        A    Yes.

 9        Q    And what do you mean by you verified it

10   using the VIN number?

11        A    We just pull the specs on both vehicles,

12   and you -- you use the VIN just to verify that it

13   is the vehicle we think we're looking at.

14            I mean, we can do it -- it's just the --

15   the standard way of referencing a particular

16   vehicle in the industry.

17        Q    Okay.  So you just use the VIN number to

18   make sure that the vehicle you were looking at was

19   actually attached to that VIN number?

20        A    We use the VIN number to make sure it was

21   the right year, make and model of the vehicle for

22   the study along with we were looking at the vehicle

23   just to --

24        Q    Gotcha.

25            Did you make any comparison of the height
```

G. Bryant Buchner , P.E.   January 23, 2024
Bryson, Santana and Joshua v. Rough Country, LLC

Page 96

1   of a 2015 Ford F250 to a 2016 Ford F250 in the

2   stock configuration?

3   A   And there's not a difference at all --

4   from a gross standpoint an individual vehicle can

5   have different tires on it.

6   You know, in this case that happened in

7   this one, but it's not because this was a 2015 or

8   2016, it's just -- this is the exact same truck.

9   It's just whoever ordered the 20 -- the accident

10 truck it came with a slightly different tire than

11 the 2015 that we had available to us.

12   So it is the same truck, there's no -- I

13 mean, we're -- we're not talking about trim here,

14 but we're talking about the body of the truck and

15 the ride of truck and everything is -- is the same.

16   Q   Well, was there any difference in the

17 stock tire size that came with the vehicle from the

18 manufacturer between the 2015 and the 2016 F250?

19   A   Well, you can get 2015 -- so the answer

20 is, yes, but not necessarily the way you described

21 it.

22   In this model -- in any -- in this model

23 year's range, you can buy a truck with different

24 size tires on it.

25   It so happened that the 20 -- that the

G. Bryant Buchner , P.E.   January 23, 2024
Bryson, Santana and Joshua v. Rough Country, LLC

Page 97

1   accident truck had tires that were .04 inches

2   potentially or .04 feet taller than the -- than the

3   2015 that we had. They're both acceptable.

4   And you look at the door of each truck to

5   see what it came with. And that can be a

6   supply/demand problem.

7   In other words, the -- the tires can

8   change because of who the manufacturer is

9   purchasing the tires from and, you know, there's

10   all kind of economies that go into that.

11   So, yeah, there -- there was a different

12   -- not necessarily because it was a different year,

13   it's just the two trucks had different tires on

14   them.

15   Q   Yeah, and I -- I think you're comparing

16   the subject truck to the exemplar you used. We

17   know that there were aftermarket tires installed on

18   the subject truck.

19   But if you were to compare a stock, for

20   lack of a better word, OEM version of a 2016 versus

21   a 2015 truck, did you account for any difference in

22   the recommended tire sizes for those two models,

23   that's what I'm getting at?

24   A   Okay. Yes. And a better answer to your

25   question, the accident truck came stock with tires

Page 98

1   that were slightly .04 inches taller than the 2015

2   stock truck. Then --

3   Q   Gotcha.

4   A   -- the accident will -- will -- the stock

5   truck got lifted and also had some slightly larger

6   tires on it in essence.

7   Q   Right. I just want to make sure we were

8   talking about stock 2016. I was confused there.

9   A   Understood. No, it's -- thank you.

10   Q   And just because I was kind of confused

11   there, you say .04 feet or point --

12   A   Yes.

13   Q   Yeah, so that's about a half an inch, I

14   guess, or...

15   A   Yeah, pretty close to it. Let me

16   multiply it out.

17   .48 inches. It's a half an inch, yes,

18   sir.

19   Q   And when you used the scan for the 2015

20   and input it into the HVE, did you adjust it by

21   that half inch?

22   A   Yes. We can change the tire size in HVE,

23   so we put the tires, the right tires on the vehicle

24   that were -- they call it a stock 2016 which is the

25   accident vehicle.

G. Bryant Buchner , P.E.   January 23, 2024
Bryson, Santana and Joshua v. Rough Country, LLC

Page 99

1   Q   Gotcha. And just -- what's the mechanism

2   in HVE for varying the height of the vehicle like

3   that from the one that you scanned and input into

4   the model?

5   A   Well, you go into its tire selection and

6   you choose a tire with the right diameter.

7   Q   Okay.

8   A   So we're -- we're looking for a 34 -- I

9   think it's a 34-inch diameter tire, but it's in my

10   material. So we just -- they have a -- you select

11   the tire with the right -- the right size.

12   Q   I gotcha. So the -- the model that you

13   ran that you rely upon did make that slight

14   adjustment for the stock tires that would have come

15   on a 2016 F250? That's all I'm trying to confirm.

16   A   Yes. Yes.

17   Q   If you look on Page 7 --

18   THE COURT REPORTER: Mr. Hill, we've lost

19   your audio.

20   THE WITNESS: Mr. Hill, we --

21   VIDEO TECHNICIAN: Would you like to go

22   off the record, counsel?

23   MS. CANNELLA: Yes.

24   VIDEO TECHNICIAN: The time is 1:25. We

25   are off the record.

G. Bryant Buchner , P.E.   January 23, 2024
Bryson, Santana and Joshua v. Rough Country, LLC

Page 100

1   (Off the record.)

2   VIDEO TECHNICIAN: The time is -- the

3   time is 1:28. We are back on the record.

4   BY MR. HILL:

5   Q   Okay. On Page 7, I was -- I was asking

6   about how the measurements were verified of the two

7   vehicles. And the way it reads is that the

8   difference in height was determined using the scan

9   of the exemplar and then the F2 -- the subject F250

10   and then using the measurements of the subject F250

11   compared against the exemplar F250.

12   And I'm -- I'm -- is it compared against

13   the measurements of the exemplar F250? It's --

14   it's just not clear what's being compared here and

15   I just want to clear that up.

16   A   Okay. There's two things going on.

17   First is, we scan both the accident and

18   the exemplar. And then from those scans, we can

19   make measurements.

20   So it's -- that's -- that's one of the

21   ways -- that's -- that's how the scans are used.

22   We have to, you know, level them up and account for

23   the tire size.

24   But then I also can go measure against

25   the accident F250 with tapes and rulers and do it

Page 101

1 that way as well, the manual way. So we're doing

2 it both ways.

3   And then you get a -- I think if we go

4 through the file, you -- we may find that there's a

5 slightly different answer between them.

6   But there -- there -- it's always over 6

7 feet over -- not over 6 feet, over 6 inches of

8 elevation change. I think 6.1 in one place and I

9 forget what the other is.

10   So that quarter inch that I was telling

11 you about earlier, you know, you've got to get

12 slight variability.

13   So we're -- we're looking -- when we say

14 "measures," we're using what I physically measure,

15 what my technicians physically measured, and then

16 in the scans what we're measuring out of the scans

17 as well. Or off the CAD drawings once we put them

18 in -- in CAD.

19   Q   All right. And they -- then the --

20 you're not -- and this may sound like the dumbest

21 question ever but I want to make sure I understand

22 it.

23   You're not actually physically measuring

24 the 2015 exemplar, you're just using the specs and

25 the CAD drawing; is that right? Or are you

Page 102

1   actually going out and physically measuring that?

2   A   We're -- we're doing both. Because --

3   no, we're going to -- we're going to approach it

4   with just pure measurements.

5   I'm going to go to the exemplar. I put a

6   tape against it. I know what the accident

7   measurements are. I'm like, okay, this looks like

8   this many inches. And we have to account for tire

9   size. So I -- I do it that way and we do it in the

10   scans as well.

11   And when we're looking for, you know,

12   redundancy or -- or a confirmation in -- from the

13   two methods.

14   One's not any better than the others, we

15   just happen to did it -- do it both ways.

16   Q   At the very bottom of Page 6, the last

17   sentence you've got: "The movement of the headrest

18   area and the bottom of the seat were compared in

19   Figure 5."

20   And just to be clear, you're saying that

21   the movement of the headrest area of the child's

22   seat in comparison to the bottom of what seat?

23   The bottom -- like what's the -- not

24   the -- not the car seat but the bottom of, what?

25   A   No, the -- of the car seat. The bottom

G. Bryant Buchner , P.E.   January 23, 2024
Bryson, Santana and Joshua v. Rough Country, LLC

Page 103

1   -- the top of the car seat moved farther forward

2   than the bottom of the car seat.

3   The car seat actually rotated where the

4   head area -- what I'm going to call the headrest

5   area because that's what we measured. The headrest

6   area moved farther forward than the base of the

7   seat, the base of the car seat.

8   Q   That's what I thought. I just wanted to

9   clarify it.

10   A   Sure.

11   Q   Thank you.

12   A   You're no longer sharing. If you want to

13   share, it'll -- I'll be quicker at understanding

14   what you're reading.

15   Q   Thanks. I turned off the share when I

16   was trying to fix the audio problem. Sorry, I

17   didn't mean to do that.

18   A   Understood.

19   Q   All right. So Figure 7 here on Page 8 is

20   showing the maximum engagement as you modeled in

21   3D.

22   And I guess the initial question would be

23   was what was the lateral offset of the two vehicles

24   as you measured based on the combo, you know,

25   longitudinal center lines?

G. Bryant Buchner , P.E.   January 23, 2024
Bryson, Santana and Joshua v. Rough Country, LLC

Page 104

```
 1        A    All right.  I actually asked that

 2   question this morning of myself because I knew you

 3   would ask it and I forgot to go get the answer.

 4             If we just look at the -- if you want me

 5   to measure it quickly, I'll do that, but I don't

 6   have it off the top of my head.

 7             But it's shown there.  It's shown, you

 8   know, a foot or so to -- the truck's a foot or so

 9   to the driver side.  But I don't have the exact

10   measurement committed to memory.

11        Q    And you input that same offset into the

12   HVE simulation?

13        A    Yes, yes.

14        Q    Okay.  You did measure it some way,

15   right?

16        A    Yeah, we did it.  I just didn't

17   memorialize it, but it's in the drawings and

18   everywhere else.  It's just not spit out as a

19   number.

20        Q    Yeah, I just didn't see it as a number

21   anywhere and just didn't know if I was just missing

22   it.

23        A    You didn't miss it.  I thought the same

24   thing.  It's -- it's fully contained in the

25   drawings, but it's not memorialized as a number.
```

G. Bryant Buchner , P.E.   January 23, 2024
Bryson, Santana and Joshua v. Rough Country, LLC

Page 105

1   And I don't see the drawing I'm looking for, but

2   I'll -- I'll look for it while we talk and I'll --

3   I'll give you that number in a minute.

4   Q   In this paragraph a little further down

5   on this page, Page 8, it starts with "A CAD

6   comparison of the post-crash vehicle." You say

7   revealed over a half foot of dynamic rebound

8   occurred?

9   MS. CANNELLA: What was that? What was

10 that, Rick?

11   MR. HILL: Yeah, I'm sorry. I'll lean in

12 closer. I apologize about all of this speaker

13 issues.

14 BY MR. HILL:

15   Q   There's a Paragraph on Page 8 that

16 begins: "A CAD comparison of the post-crash

17 vehicles," that's what I'm asking about. And you

18 say it revealed over a half foot of dynamic

19 rebound.

20   And I'm just curious as to how exactly

21 did you determine that a half foot of dynamic

22 rebound, was it just comparing the maximum

23 engagement with what you measured as with the

24 static engagement or how is that determined?

25   A   You are correct. The static bumper

G. Bryant Buchner , P.E.   January 23, 2024
Bryson, Santana and Joshua v. Rough Country, LLC

Page 106

1   profiles and the profiles give one measurement, but

2   then we know that there were parts of the vehicles

3   that touched each other that would require 6 inches

4   of additional crush for those vehicles to touch.

5   So it's a dynam -- it's a static versus

6   what we've concluded would be the dynamic crush.

7   Q   Yeah, so it's not a calculation, like a

8   formula, it's just comparing two measurements? And

9   that's --

10   A   Exactly.

11   Q   Okay. That's what I was wondering.

12   And I guess you use specific math points

13   to make those comparisons?

14   A   Yes, we did.

15   Q   All right. And it's -- it's the match

16   points that are highlighted with the -- I don't

17   know, like the shiny tape or whatever it was you

18   guys used to put a match up to match points.

19   A   Yes, it is. Yes, the -- so points that

20   we documented, marked with tape. And then in

21   the -- in the 3D world, put those points together

22   for the static and dynamic crush.

23   Q   Okay. Real quick, under this section

24   with ACM Data Analysis. Talking about the imaging

25   of the ACM. That was done, I guess, by law

G. Bryant Buchner , P.E.   January 23, 2024
Bryson, Santana and Joshua v. Rough Country, LLC

Page 107

1   enforcement on that date? That was before you were

2   involved in the case?

3   A   Yes.

4   Q   And how did -- and this Crash Data

5   Retrieval Tool 19.3, you just know that from the

6   ADR readout, that's not referencing what you used;

7   is that right?

8   A   It was in their materials, in the

9   officers' materials. They reported that. It may

10   be in the actual printout itself.

11   Q   Gotcha.

12   Explain for me how the ACM recorded a

13   deployment of that when the airbags didn't actually

14   deploy.

15   A   Yeah, that's the actual typo or maybe

16   there's another one. But the ACM recorded one

17   event. I don't remember it being a -- it was an --

18   the airbags did not deploy, so that's -- that's

19   where I'm seeing a -- a problem. I haven't fully

20   researched it, but it was a nondeployment event.

21   And remember you asked me earlier about

22   an error code or something like that. I -- I want

23   to go back and look at all that, but it was a

24   nondeployment in actuality. So I think that's a

25   typo.

Veritext Legal Solutions

G. Bryant Buchner , P.E.   January 23, 2024
Bryson, Santana and Joshua v. Rough Country, LLC

Page 108

1   Q   Did ACMs record nondeployment events as

2   well?

3   A   Oh, yeah, sure, yes.

4   Q   Okay. Now we're on Page 9. This is the

5   ACM data. Just a couple of minor points to make

6   sure I understand it.

7   Your sentence right below the figure

8   records those delta-Vs, and -- and that's simply --

9   you presented those values because those are the

10   ones at the end of the recording?

11   A   Yes, that's -- once we believe the

12   collision is over with, that's the delta-V,

13   effectively over with.

14   Q   All right. Then there's a discussion in

15   the next paragraph about the speed indication from

16   how -- how the speed vehicle is indicated in the

17   ACM.

18   And I guess I'd question, do you know

19   whether the missed -- the 2016 F250 used wheel

20   speed or transmission speed?

21   I mean, you seem to reference wheel speed

22   here, but does it also have transmission speed?

23   A   When we say "wheel speed," we're talking

24   about how fast the truck thinks the wheels are

25   turning.

Page 109

1   So it's going to think they're turning a

2   little -- it's going to think they're -- he's -- he

3   knows how fast they're turning, but then it's going

4   to convert that to a speedometer speed.

5   And so, that's all we're talking about

6   here. When we say wheel speed, it's -- it's

7   calibrated to calculate the wheel speed, so we're

8   just talking about the final answer here.

9   What -- how that -- you know, it probably

10   is mentioned in the transmission, but it can also

11   be checked with the ABS sensors and things like

12   that.

13   So I'm not getting into how this exact

14   truck does it, but it is looking for wheel speed.

15   I'll use more of a generic term.

16   Q   Yeah, yeah, there's also a three-channel,

17   you know, speed-sensing system related to the

18   transmission, and that's just another source of

19   speed.

20   A   Well, right, but it's calculating wheel

21   speed out of that. That's what it --

22   Q   Right.

23   A   Yeah.

24   Q   There's a discussion about Momentum

25   Calculations. I have a few questions about that.

G. Bryant Buchner , P.E.   January 23, 2024
Bryson, Santana and Joshua v. Rough Country, LLC

Page 110

1   All right. When we're -- under this
2   section, you're -- you're solely talking about the
3   actual vehicles involved in this accident.
4   This has nothing to do with the exemplar
5   models that you used, correct?
6   A   Yes, sir.
7   Q   All right. I just want to make sure.
8   And the vehicle weight you used in these
9   momentum calculations were the ones you actually
10   measured on the subject vehicle?
11   A   We measured them and then added the
12   occupant weights on them. We have a whole sheet in
13   our file about that.
14   Q   Right.
15   A   Yeah. It's the weighed measurement is
16   the foundation.
17   Q   And what was the coefficient of
18   restitution that you used in these calculations?
19   A   Well, you don't -- in momentum, you don't
20   use a coefficient of restitution when you have this
21   type of information. It's -- it's -- it's
22   accounted for just in the delta-V.
23   Q   That's because you have the pre-impact
24   and post-impact speeds in a delta-V?
25   A   Yes.

G. Bryant Buchner , P.E.   January 23, 2024
Bryson, Santana and Joshua v. Rough Country, LLC

Page 111

1   Q   Right.

2   A   You -- you could calculate it from this

3   if you -- potentially but, you know, it -- you

4   don't need it.

5   Q   All right. And you -- you basically

6   accounted for a zero pre-impact speed for the

7   Escape --

8   A   Yes.

9   Q   -- in the calculations?

10   A   Yes.

11   Q   And then your post-impact speed for the

12   Escape was what?

13   A   40.6 miles an hour in my calculation.

14   Q   Okay. And so the delta-V for the Escape

15   will be approximately the same; is that right, or

16   no?

17   A   What was the question?

18   Q   Yeah. So what was the delta-V of the

19   Escape?

20   A   40.6.

21   And I misspoke a minute ago. If we input

22   the 0 miles per hour -- well, anyway, we did it --

23   we did set up a series of equations that used the

24   -- that saw for the restitution. I said we didn't

25   do that, but we did actually -- we did use the

G. Bryant Buchner , P.E.   January 23, 2024
Bryson, Santana and Joshua v. Rough Country, LLC

Page 112

1   coefficient of restitution in this to get

2   everything to balance out.

3   So we -- we didn't have to, I don't

4   think, but we did do it. We got -- so I misspoke a

5   minute ago.

6   It would be -- it would be helpful if I

7   looked at the calculation before I answered the

8   question.

9   Q   Is this it?

10   A   Yes, sir.

11   Q   All right. That's why I was asking you

12   about it.

13   A   Yeah.

14   Q   This is Bryson 4000. And I guess since

15   you -- you know -- tell us what -- what you're

16   doing here with -- with both vehicles here just so

17   I understand it.

18   You've calculated a restitution of 0.148;

19   is that correct?

20   A   It's actually being used to solve there.

21   So I think I'd have to go back and -- go back

22   through the calculation carefully, but the way it's

23   being put in there, that's the effective

24   restitution this shows, yes.

25   And let me -- yeah.

G. Bryant Buchner , P.E.   January 23, 2024
Bryson, Santana and Joshua v. Rough Country, LLC

Page 113

1   Q   I'm making sure you didn't need to see

2   any other part of this file to answer that

3   question.

4   A   Pardon me?

5   Q   I was just wanting to show you the rest

6   of this file in case --

7   A   Well -- yeah, let me do -- I'm trying --

8   unfortunately, you're looking at one thing and I'm

9   trying to look at something else so that I can get

10   on the same page and sometimes it's a little bit

11   slow with it. Let me do something here.

12   MR. HILL: Why don't we just take another

13   quick five-minute break while you look at that

14   because I kind of maybe need to use the restroom.

15   I apologize.

16   THE WITNESS: Sure.

17   MR. HILL: If that works.

18   THE WITNESS: That's fine with me.

19   A   Basically, we set it up --

20   VIDEO TECHNICIAN: The time is --

21   A   -- with a series of equations to get

22   everything to balance out using restitution.

23   And we got the 51 and the 17.92 to match

24   along with the weights. So we believe that this is

25   a good momentum model.

G. Bryant Buchner , P.E.   January 23, 2024
Bryson, Santana and Joshua v. Rough Country, LLC

Page 114

1   I had forgotten, but we did include

2   restitution. And so, all of our -- all of our

3   inputs balance with what we believed we know about

4   the accident using that .148.

5   BY MR. HILL:

6   Q   Right. And correct me if I'm wrong, but

7   when you did the HVE simulation, wouldn't there be

8   a place to input this same coefficient of

9   restitution?

10   A   Well, there's two different

11   methodologies, but, yes, you could input that but

12   it's -- it's really a -- kind of like earlier when

13   we were measuring how high the truck moved and I

14   said a quarter inch doesn't matter because you're

15   really using two different methods. It -- it

16   may -- it doesn't matter to me.

17   But you're just using a different method

18   here, another calculation method, which is -- is

19   robust.

20   So I don't want to mix my methods or

21   overvalue one above the other. I want to do them

22   independently and see what all the answers are.

23   So, but yes, someone could put that in

24   but in HVE it wouldn't quite balance because HVE is

25   looking at crush. This is not looking at crush.

G. Bryant Buchner , P.E.   January 23, 2024
Bryson, Santana and Joshua v. Rough Country, LLC

Page 115

1   But the answers are probably the same

2   answers, 40-miles-an-hour delta-V.

3   Q   Right. And HVE has to use a coefficient

4   of restitution in determining its crush analysis,

5   correct?

6   A   Well, yes.

7   Q   Right. And you mentioned that the

8   default coefficient of restitution that was used

9   when you first ran the simulation did not create

10   the results that you expected and you had to change

11   or manipulate that coefficient of restitution to

12   make HVE create the results that you expected; is

13   that fair?

14   A   To create the results that were measured

15   by the truck, yes.

16   In other words, HVE has never seen this

17   crash, it's just a calculation. It's -- this is

18   just a calculation.

19   Calculations are nothing but simulations

20   of reality. We never expect a calculation to know

21   what really happened in the crash, it's just a tool

22   that we use as engineers to understand it.

23   Q   Gotcha.

24   MR. HILL: Let's take that break real

25   quick. Just a short one.

Case 2:22-cv-00017-RWS   Document 102-1   Filed 09/05/24   Page 116 of 307
G. Bryant Buchner , P.E.   January 23, 2024
Bryson, Santana and Joshua v. Rough Country, LLC

Page 116

1   THE WITNESS: Thank you.

2   VIDEO TECHNICIAN: The time is 1:49. We

3   are off the record.

4   (Recess taken.)

5   VIDEO TECHNICIAN: The time is 1:58. We

6   are back on the record.

7   BY MR. HILL:

8   Q   All right. I've got the -- your report

9   back up. I hope you can see it. I'm on Page 10

10   where it is entitled Crush Analysis, that section.

11   A   Yes.

12   Q   And just to make sure it's clear, this

13   section refers to your use of mathematical

14   calculations to estimate the amount of crush in the

15   hypothetical incident of a stock F250 being

16   involved in this accident; is that a fair way to

17   say it?

18   A   Yes.

19   Q   And -- and this is not really connected

20   to the simulation section below dealing with the

21   HVE simulator?

22   They're two separate ways or tools that

23   you use to try to analyze the amount of crush and

24   the hypothetical of a nonlifted stock 2016 F250; is

25   that fair?

G. Bryant Buchner , P.E.   January 23, 2024
Bryson, Santana and Joshua v. Rough Country, LLC

Page 117

1   A   Right.

2   Q   Okay.

3   A   The pre-lifted vehicle.   If the

4   pre-lifted F250 had been in the crash, that's what

5   we mean.

6   (Deposition Exhibit 8 marked.)

7   BY MR. HILL:

8   Q   All right.   And if I pull up here -- let

9   me find it.   This is what is listed in your

10   materials as Crush Analysis, Bates labeled 3990

11   through 39 -- 999.

12   A   Yes.

13   Q   Is this -- am I right to refer to this

14   when I'm talking about the crush analysis you

15   mentioned on Page 10?

16   A   Yes.

17   Q   All right.   And it starts here with a

18   depiction and it has the Accident Damage in red and

19   the Calculated Damage in blue.

20   And what that means calculated damage in

21   blue is what you believe the crush would have been

22   in the quote/unquote stock configuration of the

23   F250.

24   A   That's what this method calculates, yes.

25   Q   All right.   And so it's approximately

G. Bryant Buchner , P.E.   January 23, 2024
Bryson, Santana and Joshua v. Rough Country, LLC

Page 118

1   2.3 feet. You're saying -- what is that -- that's

2   the delta, meaning, the difference between the

3   maximum or the crush with the -- with the accident

4   itself and crush with the stock vehicle?

5   A   Yes, that's how much less crush this

6   method predicts.

7   Q   And are both of these lines following --

8   well, obviously, the blue line is using the

9   calculated method. The red line, is that from

10   actual measurements or is that also using the same

11   method of calculations?

12   A   No, that's -- that's where the crush was

13   on the car, on the Escape in the accident.

14   So the red line is what did happen, the

15   blue line is what in my opinion using this

16   methodology would have happened had the vehicle not

17   been lifted.

18   Q   Right. And if we go down to this next

19   page, 3991, is the same type of -- I don't know the

20   right word -- showing the same type of -- of change

21   in crush between the accident damage and -- and

22   this methodology of calculating crush that's on the

23   pages we're about to get to, right?

24   The same thing, this is with a Ford F250?

25   A   Okay, this is -- yes, in the calculation

G. Bryant Buchner , P.E.   January 23, 2024
Bryson, Santana and Joshua v. Rough Country, LLC

Page 119

1   methodology we were talking about the Ford F250

2   would have had slightly more crush, and this is

3   what it would have been.

4   Q   Right. And -- and 3992 is the

5   beginning -- 3993 illustrates how you use this

6   method to mathematically come to these conclusions?

7   A   Yes.

8   Q   That's correct, okay.

9   And we have a restitution on 3993 of 0.1.

10   Is that something that was calculated

11 based on these -- these calculations or was that

12 just input as part of the calculations?

13   A   That's input as part of the calculations.

14 So that was input.

15   Q   So what is the source of that number?

16 Why did you input .1 as the coefficient of

17 restitution?

18   A   Thought it was a reasonable value.

19   Q   Right. And it's -- it's different from

20 the value calculated with your momentum

21 calculations of .148?

22   A   Yeah, but remember the momentum was -- at

23 that point -- I -- I didn't point this out earlier.

24 The .148 is for the accident when the hatch was hit

25 and we're trying to balance out what did happen in

G. Bryant Buchner , P.E.   January 23, 2024

Bryson, Santana and Joshua v. Rough Country, LLC

Page 120

1   the accident.

2   So it's not representative of what we did

3   in EDSMAC or the engine dynamics or in the other

4   calculation because this is -- this is, you know, a

5   -- the accident condition which is not what we're

6   trying to model in the other calculations. We're

7   trying to model a bumper-to-bumper-type hit.

8   Q   So you used an estimate of the difference

9   in the coefficient of restitution if only the

10   bumper was impacted of .1? And that was just

11   your --

12   A   That's correct.

13   Q   -- kind of reasonable value?

14   A   Yeah, not only the bumper because other

15   things will hit, but yeah, the .1 is what I -- what

16   I used for the stock truck hitting a stock Escape.

17   Q   And in your calculations here under the

18   stock you're assuming that there will be no bumper

19   override in this hypothetical impact?

20   A   I'm not assuming it, I'm -- I'm

21   concluding it as an engineer based on what I know

22   about the accident. But, yeah, I don't believe

23   there is going to be any.

24   Q   And you're concluding it based upon what,

25   just the heights of the two bumpers, based upon the

G. Bryant Buchner , P.E.   January 23, 2024
Bryson, Santana and Joshua v. Rough Country, LLC

Page 121

1   measurements that you used from the exemplar, and

2   so forth?

3   A   I'm using it -- I'm using my study of

4   this crash in my experience and training. And part

5   of that is the height, yes, sir.

6   Q   What other factors led you to conclude

7   that there would be no bumper override other than

8   just purely the measurement of the heights in that

9   hypothetical situation?

10   A   Well, we know -- okay, probably the -- a

11   factor that may not have been apparent yet but it

12   is if you look at the drawings and things.

13   The tow hooks of the accident truck went

14   into the hatch of the Escape, whereas, if the truck

15   had not been lifted, then the tow hooks would have

16   actually gone into the rear bumper fascia area and

17   actually under the -- the bumper bar itself.

18   So once this vehicle engaged, it would

19   have been impossible for it to go up and over

20   because you would have had a mechanical

21   interlocking to hold -- to prevent it from getting

22   up into the hatch.

23   It's kind of like a stop, if you will.

24   I'm a -- I'm a -- I'm an engineer. It's -- you

25   know, if -- if there's something that's underneath

G. Bryant Buchner , P.E.   January 23, 2024
Bryson, Santana and Joshua v. Rough Country, LLC

Page 122

1   the bumper and penetrated underneath it, it can't

2   come back out and go around the bumper to get up

3   into the tailgate.

4   So, you know, there is some more

5   understanding coming in from it, but the other

6   thing is there's no forces going up or down in the

7   crash so that, you know, with good bumper-to-bumper

8   contact they're going to -- they're going to want

9   to stay married up with the original contact

10   elevation.

11   Whereas, in the accident, you know, the

12   -- the Ford F250 bumper actually hit the very top

13   of the Escape bumper and -- and helped push the

14   bumper down, bend it down and get the truck up into

15   the hatch.

16   So those would be the three -- that would

17   be the main things that I would point to and I

18   think that's all need to make that observation.

19   Q   Sure. If the -- what about if there were

20   no tow hooks, is that the factor that you're

21   relying upon the most to say that there would be no

22   override?

23   A   No. No, I'm looking at this particular

24   accident. I'm pointing that out as a -- I mean, to

25   me it's kind of like a giant billboard flashing in

Page 123

1   the sky.

2   But, you know, it's -- it's -- it's

3   obvious it wouldn't have gone over. But even if it

4   had been -- even without the tow hooks because of

5   what I was talking about earlier you would have

6   flush impact, there's no forces pushing them up or

7   down.

8   Remarkably you're in the collision phase

9   to -- to upset that engagement if the -- if the

10 truck had been a stock truck.

11   Q   Gotcha. I just want to make sure I

12 understand it.

13   So, in your opinion, that the tow hooks

14 would have played a role in this and would have

15 gone underneath the bumper of the Escape, that's

16 based upon just the pure height of the tow hooks in

17 your belief as to where they would have impacted

18 the bumper of the Escape?

19   A   It is not underneath the bumper,

20 depending on what we call bumper, but they would --

21 they would slide underneath the bumper bar that's

22 inside what's normally called the bumper area.

23   In other words, it would have -- instead

24 of poking into the tailgate, it would have poked in

25 -- it would have prevented the truck from being

G. Bryant Buchner , P.E.   January 23, 2024
Bryson, Santana and Joshua v. Rough Country, LLC

Page 124

1   able to rise up and get to the tailgate.

2   That's just in the extreme if someone

3   thinks, you know, that a normal bumper to bumper it

4   wouldn't have worked out.

5   Q   But -- but you are saying that the tow

6   hooks would have been the bumper bar in a way that

7   would have prevented it from overriding the bumper

8   bar?

9   It would have been below the level of the

10   bumper bar and gone underneath, is that my

11   understanding of the record?

12   A   Yeah, it would basically serve to keep

13   the bumpers -- help serve to keep the bumpers

14   engaged if for some strange reason they didn't want

15   to which I don't have any evidence of.

16   Q   Gotcha.

17   Would it -- is it your opinion that it

18   would have been impossible for the stock version

19   with the tow hooks to have overridden the bumper?

20   A   Reasonably, yes.

21   Q   What do you mean, what's the

22   qualification of reasonably?

23   A   Well, you can tell me all the conditions

24   that were going on and everything, so.

25   So, but, you know, if you just -- if you

G. Bryant Buchner , P.E.   January 23, 2024
Bryson, Santana and Joshua v. Rough Country, LLC

Page 125

1   just run that F250, a stock F250 in the back of an

2   Escape, you're not going to override it, no.

3   But I don't -- you're creating a new

4   accident -- I say you're creating a new accident.

5   I'm not sure how big your question was, but if they

6   just hit like they did in this accident, I would

7   say reasonably it's not -- not possible.

8   Q   And when you say "this accident," you

9   mean the subject accident we know they were higher

10   and there was override.

11   I'm talking about this hypothetical that

12   you're analyzing of this crush analysis of a

13   stock version.

14   A   Right. Where you change this accident

15   where a stock truck hits this vehicle the way the

16   subject truck did, it's just not lifted. No,

17   there's no reasonable possibility that they're

18   going to get an override situation out of it.

19   Q   Whether there's tow hooks on there or

20   not?

21   A   Right, with or without, but the tow hooks

22   are going to, you know, just be icing on the cake,

23   if you will.

24   Q   I understand.

25   A   Yes.

G. Bryant Buchner , P.E.   January 23, 2024
Bryson, Santana and Joshua v. Rough Country, LLC

Page 126

1   Q   But your opinion with or without the tow

2   hooks, stock configuration, there's no chance of

3   override?

4   A   Right, no reason to chance at all. But,

5   you know, if I'm showing this to the jury, I'm

6   going to show them that the tow hooks are going to

7   hit underneath that bumper bar and it's going to

8   lock that truck in so that they can have the same

9   billboard in the sky that I have.

10   I mean, it's got -- if you've got

11   something indexing and holding them at that

12   elevation, it's -- it can override it.

13   So to me that's an -- that's an important

14   argument but it doesn't -- doesn't mean that the

15   vehicles won't do it if they just hit bumper to

16   bumper. It's just easier to understand.

17   Q   You're just saying that's one element of

18   your argument that a stock configuration can't

19   override, and that's the tow hooks would play a

20   role, that's all you're saying?

21   A   Very easy to understand.

22   Q   Sure. All right. This page here, 3994

23   from AutoStats, followed this factor into your

24   crush analysis using the mathematical point.

25   A   The crush -- when -- when we're reporting

G. Bryant Buchner , P.E.   January 23, 2024
Bryson, Santana and Joshua v. Rough Country, LLC

Page 127

1   crush on the Escape sometimes we're just recording

2   from the back hatch because that's what crushed in

3   and -- and stopped the truck. The bumper and

4   everything went down and got bent up.

5   So this is just reminding us that it's

6   about 5 inches from the back hatch to the bumper

7   itself.

8   Q   And when you say 5 inches, explain that.

9   When you say -- you mean the bumper protrudes

10 beyond the hatch about 5 inches?

11   A   Yes.

12   Q   Okay. And this is -- again, you used the

13 2010 information from AutoStat?

14   A   It's the same as -- it's the same as '08,

15 yes. It's -- yeah, it's -- all this data is for

16 that year range of vehicle.

17   I just happened -- or I didn't -- the

18 staff engineer that did this happened to print the

19 2010, but it's the same information as the 2008.

20   Q   And it has a weight distribution for the

21 Escape of 57 percent on the front and 43 percent on

22 the back; is that correct?

23   A   Yes.

24   Q   That relates to the overall weight or is

25 that the curb weight on the axis?

G. Bryant Buchner , P.E.   January 23, 2024
Bryson, Santana and Joshua v. Rough Country, LLC

Page 128

1   A   Both.   The -- 57 percent of the curb

2   weight will be on the front axle and 43 percent

3   will be on the rear axle.

4   Q   And did you use that same distribution

5   when using the HVE simulation?

6   A   Yes.

7   Q   All right. And then for the -- this is

8   just -- this page just has the information on the

9   Escape. Did you use this same type of information

10   for the F250?

11   A   Yes.

12   Q   All right. That's -- I don't see that

13   included with your crush analysis. So is there a

14   page missing from this or --

15   A   No, the -- the specs are in the file.

16   For some -- when we're doing the crush analysis, we

17   want to remind ourselves about the difference in

18   5 inches. That's what's highlighted here.

19   That wasn't important for the truck

20   because it used its bumper on everybody.

21   The weight percentages are in another

22   part of the file, they just happen to also be on

23   this page.

24   Q   Okay. And tell me again the significance

25   of reminding yourself of the 5 inches.

G. Bryant Buchner , P.E.   January 23, 2024
Bryson, Santana and Joshua v. Rough Country, LLC

Page 129

1   A   In the drawings -- and we're not looking

2   at a specific drawing here, but there's 5 inches

3   between where the bumper is and where the hatch is

4   on the Escape.

5   So because the hatch is the one that

6   crushed forward when we're -- sometimes when we're

7   measuring crush, we're measuring displacement of

8   the hatch.

9   And we want to remind ourselves that when

10   we're reporting total crush, we need to add

11   5 inches to that to measure from the bumper which

12   is more typical.

13   So it's just -- it's part of a

14   conversation when we're talking about crush. It's

15   not right, it's not wrong, it's just a number. And

16   we want to remember what the number is.

17   Q   Yeah.

18   A   So like right here see the 3.35 inches on

19   Page 003995 Bate stamped. That 3.35 is measured to

20   the hatch. So we need to add 0.4 feet to it to

21   express the total crush.

22   Q   Talking about crush in relation to the

23   end of the bar?

24   A   Right, which is where it's normally

25   expressed from.

G. Bryant Buchner , P.E.   January 23, 2024

Bryson, Santana and Joshua v. Rough Country, LLC

Page 130

1   Q   Right. This document labeled 3997, just

2   explain this for me. This is from Neptune

3   Engineering. This is an outside source that you

4   use to, I guess, determine a crush stiffness

5   coefficient?

6   A   Yes.

7   Q   All right. And how did you do -- use

8   this? There's a part that's highlighted. How is

9   this used in your crush analysis?

10   A   For the crush stiffness of the pickup,

11   this is the crush stiffness that we used. We

12   needed those values for the calculations in the

13   analysis that we did. So this is the source.

14   Q   And this represents the crush stiffness

15   of the front bumper of the F250?

16   A   The front of the F250 which is generally

17   expressed at the bumper level, yes.

18   Q   And how did you determine the crush

19   stiffness of the rear bumper of the Escape?

20   A   Well, we did two things.

21   No. 1 is there's an essay paper, I

22   believe, that gives the class of vehicle that it

23   is.

24   And then when we ran the engineering

25   dynamics programs, they had stiffnesses in the

Page 131

1   program already for 2008 Escapes, and we used

2   those.

3   So we actually ranged it based on two

4   different sources.

5   Q   This is for the rear bumper of the

6   Escape, not the rear hatch?

7   A   Well, it's the rear. When you do crush

8   stiffness, you don't have to -- you're talking

9   about one side of the vehicle.

10   You can do side stiffness, you can do

11   front stiffness, you can do rear stiffness.

12   But we typically measure crush at the

13   bumper level when calculating stiffness because

14   that's the part that's designed to take the crash.

15   We can do it at other elevations, but

16   when you look at something like the Neptune data

17   where the crush stiffness is in the papers like we

18   used for the Escape, you're going to see that, you

19   know, they're -- they're based on bumper level

20   crush meaning -- but it extends above and below

21   that, but the measurements are at the bumper level

22   as part of the protocol.

23   Q   So basically the height is -- would be

24   the height of the bumper that you're using as far

25   as -- is that right? Or am I misunderstanding

G. Bryant Buchner , P.E.   January 23, 2024
Bryson, Santana and Joshua v. Rough Country, LLC

Page 132

1   this?

2   A   You are and you aren't. You're -- I

3   think technically from a -- there's a good

4   understanding there on your part.

5   We have to choose where to measure the

6   crush elevation, although, there's crush above and

7   below it.

8   We choose a bumper level to measure it so

9   that when we calculate the stiffness coefficients,

10 they're representative of crush above and below the

11 bumper, but we measure it at the bumper level.

12   So we're going to be expressing bumper

13 level crush using the calculation -- one of the

14 calculation methodologies we did.

15   But it's not just confining it to the

16 bumper level, but it's just part of the protocols.

17   Q   And that's all I was trying -- that makes

18 sense.

19   A   Okay.

20   Q   So if the height of your crush or

21 deformation calculations is basically at the bumper

22 level, that's -- correct?

23   A   Yeah. The answer is given at bumper

24 level, yes. But we can adapt it to other levels,

25 but it's -- the standard protocol is you're --

Page 133

1   you're looking at bumper level-type crush.

2   Q   So when you're doing these calculations,

3   the items in the cargo area are not going to factor

4   in when you got to determine crush because they're

5   above the height of the -- of the calculations; is

6   that fair?

7   A   No.

8   Q   Okay. How am I wrong about that?

9   A   Pardon? Pardon?

10   Q   Well, how -- how am I incorrect in that

11   statement?

12   A   It does include -- first, cargo should

13   not be part of the strength of a vehicle. If it

14   is, then that's -- you know, that's -- that means

15   that we're not really doing a good job at designing

16   our vehicles or managing our -- our crashes.

17   But the hatch area and damage to it and

18   the seat fillers and all of that is included in the

19   crush stiffness coefficients. The strength of

20   those do affect those coefficients.

21   But the protocol is to measure the static

22   crush at the bumper level even though we know

23   there's going to be crush above and below there.

24   It's just the protocol that Campbell and

25   everybody came up with when they were developing

G. Bryant Buchner , P.E.   January 23, 2024
Bryson, Santana and Joshua v. Rough Country, LLC

Page 134

```
 1   this methodology.

 2           We could -- we can adapt it and do it

 3   other different ways.  We -- but, no, the standard

 4   way is to do it.

 5           Just like, you know, when you want to

 6   learn how tall somebody is you take their shoes

 7   off, but most of us are measured with our shoes on

 8   at the doctor's office.  It's okay.

 9       Q    And I just want to make sure I

10   understood.

11           So there's no way to account for any

12   stiffness or any impact of the cargo in the crush

13   analysis?  I mean, that's just -- that's your

14   opinion, it's not what you do?

15       A    It's never done because --

16           MS. CANNELLA:  Hold on.  Object to the

17   form of the question as vague.

18   BY MR. HILL:

19       Q    Go ahead.

20       A    I would say it would -- you could do it,

21   but it would be a little bit unusual to be thinking

22   that what was in the cargo area was adding to the

23   strength of the vehicle.  In this case I'm sure it

24   effectively didn't.

25           I mean, I can pick up the -- the shop vac
```

G. Bryant Buchner , P.E.   January 23, 2024
Bryson, Santana and Joshua v. Rough Country, LLC

Page 135

```
 1    and tap it on the side and grab it and bend it with

 2    my arms.  There's no way that -- that we would

 3    include that in there reasonably.

 4              But if you did want to and there was

 5    something in there like, I don't know, something

 6    uncrushable, you know, a -- you know, a safe, then,

 7    yeah, we could -- we could include that in there.

 8              But it's in -- but, no, it's not included

 9    because it's not reasonable to include under every

10    situation I've ever been a part of.

11         Q    All right.  You know, when you talk about

12    the deformation of the rear seat, that would be

13    impacted by items in the cargo area?

14         A    Yes.

15         Q    All right.  And -- and did you factor

16    that in when -- in any part of your analysis, the

17    effect of the cargo on the deformation of the rear

18    seat?

19         A    Yeah.  Well, yeah, because that's -- we

20    measure that and we show that and we show the rear

21    seat was pushed forward.  That's an observation.

22              You know, that -- that clearly affected

23    the survivability of the crash for the occupants.

24    The occupant space was crushed in.

25              But as far as calculating the strength of
```

G. Bryant Buchner , P.E.   January 23, 2024
Bryson, Santana and Joshua v. Rough Country, LLC

Page 136

1   that seat, we're not using it because in a normal

2   crash it's not involved.

3   In the normal crash the strength of the

4   seat is -- is held to the -- protecting the

5   occupant and part of them.

6   It's not part of the -- it's not part of

7   defending the outside of the vehicle bumper, rear

8   bumper, from a rear impact.

9   So, you know, we're mixing apples and

10   oranges here, but in this case we measure it so we

11   can show how far it when in.

12   But when we -- but we're not calculating

13   how strong that seat is because in the normal event

14   it's not involved in the crash.

15   Q   And when you say "normal event," you mean

16   when there's no bumper override, that -- is that

17   what you mean by the term "normal event"?

18   A   When the bumper is on top of where I'm

19   sitting, that's an abnormal event.

20   The truck -- the bumper of this truck

21   made it in. It doesn't -- however we want to call

22   it. I'm not trying to -- in this crash, that's all

23   I'm talking about, is the bumper was in the rear

24   seat occupant space where the person used to be

25   sitting. That's abnormal.

G. Bryant Buchner , P.E.   January 23, 2024
Bryson, Santana and Joshua v. Rough Country, LLC

Page 137

1   In the normal event, we got stock

2   vehicles that hit each other and we can calculate

3   what that is.

4   So we observe the abnormal event because

5   it's not normal and then we also can calculate the

6   normal event which has got a bumper-to-bumper hit.

7   If someone wants to analyze other things

8   in between, that's fine. We can go try to do that,

9   but those are the only two things we're looking at

10   here.

11   Q   Yeah, I think you answered. I'm just

12   saying when you say "normal event," you mean a

13   bumper-to-bumper impact?

14   A   Of stock vehicles, yes.

15   Q   Yeah.

16   A   Let's say normal like would have happened

17   in this crash with stock vehicles.

18   Q   Let me pull up your report again.

19   A   Yes, sir.

20   Q   All right. This is Page 11 -- or I'm

21   sorry, Page 10 of your report, Bryson 1359.

22   And the first bullet point under Analysis

23   and Conclusions is "The F250 was effectively lifted

24   over 6 inches."

25   Do you know how far the frame rails were

Page 138

1   lifted in the -- in the subject vehicle as compared

2   to a factory F250?

3   A   A lot of different questions in there.

4   But the frame rail -- in the simplest analysis,

5   this truck was measured -- was, I think, lifted

6   between 6 and 6 1/2, but over 6, probably less

7   than -- close to 6 1/2.

8   So if we take off the point, I think it

9   was 0.4 inches. Let me look at my table here.

10   Yeah, 0.7 inches for the tires would be

11   -- if you take the tires out of it, you would be

12   somewhere above probably 5 1/2 inches or near

13   5 1/2.

14   However, we can also add back in, you

15   know, the -- we don't want to miss if the lift kit

16   recommended larger tires than were even on the

17   accident truck.

18   So, you know, it's -- so if you -- if you

19   just put the stock tires on, you would be down to

20   around 5 1/2. If you -- with the frame and the

21   lift kit.

22   Q   I guess the answer is 5 1/2?

23   A   Around 5 1/2, yes.

24   Q   All right. And you didn't actually

25   perform any calculations or measurements to

G. Bryant Buchner , P.E.   January 23, 2024
Bryson, Santana and Joshua v. Rough Country, LLC

Page 139

1   determine that, that's just an estimate?

2   A   No, I calculated it and we got six -- we

3   -- so I -- yeah, I did calculations based on the

4   ranges I had just then.

5   Q   You just calculated it during the

6   deposition yourself?

7   A   Yeah. Yeah, I did.

8   Q   Okay. But there's not --

9   A   To answer your -- to answer your

10   question.

11   Q   Yeah. I was just looking for any

12   calculations in all the materials you -- you -- you

13   found.

14   A   Thank you. I misunderstood.

15   Q   And I guess you're saying that there's no

16   sheet that I can look to that shows those

17   calculations other than just being done by you

18   prior to the deposition?

19   A   Yeah.

20   Q   Fair?

21   A   What you do is you look at the lift that

22   we calculated and then subtract 0.7 inches.

23   Q   All right.

24   A   So you take what we already calculated

25   and measure and then you subtract 0.7 inches to get

G. Bryant Buchner , P.E.   January 23, 2024
Bryson, Santana and Joshua v. Rough Country, LLC

Page 140

```
 1   to the stock tire size.

 2            And then that will give you the frame

 3   with stock tire.  The actual distance the frame

 4   moved up absent the tires.

 5       Q    You have a comment in here about the F250

 6   bumper, and is the second bullet point, how far it

 7   penetrated into the rear of the Escape.

 8            Is that based upon the deformation in the

 9   rear seat or what is the basis for your conclusion

10   that the bumper actually went so far in that the

11   child seat was pushed forward by over 18 inches?

12            And I'm trying to understand how you

13   determined the location of the bumper at its

14   maximum intruding level?

15       A    We fit -- yeah, that's a -- let me read

16   here.

17            Yeah, that's the static analysis.  We

18   basically fit the bumper of the truck on to the

19   tailgate in the damaged condition after they have

20   rebounded.  And we fit those two together.

21            The front bumper of the truck is

22   literally -- and then we compare that to an

23   uncrushed Escape -- and the bumper is literally,

24   you know, in -- in -- in the rear seat area of the

25   truck -- I mean, of the Escape.
```

G. Bryant Buchner , P.E.   January 23, 2024
Bryson, Santana and Joshua v. Rough Country, LLC

Page 141

1   That's where it is when you just do a

2   geometric matching of the two.

3   Q   And you're talking about using crush

4   standards (inaudible) to place the bumper of the

5   F250 and it's (inaudible) of components of the

6   Escape other than the seat?

7   I mean, what -- what are -- what is

8   the basis for your -- that comparison,

9   that (inaudible)?

10   MS. CANNELLA: Did you hear that whole

11   question? I didn't hear it. You cut out a little

12   bit.

13   Could you read back the question, Madam

14   Court Reporter, I couldn't hear it.

15   THE COURT REPORTER: I need it repeated,

16   Mr. Hill.

17   MR. HILL: I'll repeat it. Hopefully it

18   is better this time.

19   BY MR. HILL:

20   Q   When you overlay, as you just mentioned,

21   based upon the crush that you observed, you placed

22   the 250 in sort of its position at its maximum

23   intrusion. Based upon an overlay.

24   And my question is, how do you determine

25   from the overlay the full extent of the intrusion

Page 142

```
 1    of the bumper?

 2         A     You -- you know the original seat

 3    geometry from the inspection of the exemplar.  You

 4    know where it's located.  And then you know from

 5    the damaged vehicle how far the crush went forward.

 6              And from those we can see that it's

 7    invading the occupant's rear seat area.  It's just

 8    a simple fit the Legos together problem.

 9         Q     How -- I'm sorry.  You -- I didn't mean

10    to --

11         A     That's all it is.

12         Q     And that's exactly what I was getting at.

13    Is that it's a measurement of the deflection of the

14    seat and you're using --

15         A     We can do the -- we did do the deflection

16    of the seat and we can do that.  But -- but I think

17    what you're asking about is, how do we know how far

18    the bumper went in?

19              That's just -- that's just a pure

20    measurement from -- or the fitting of the pieces

21    together and then comparing it to what they used to

22    look like before they were deformed.

23         Q     Right.  So -- and what was deformed is

24    the seat.  And so you're measuring how far the seat

25    was pushed in?
```

Page 143

```
 1        A     No, we're not.  Well, we can.

 2              Okay.  What -- see, you think we're

 3    measuring to the seat.  Here we're -- we're just

 4    using the damage on the vehicles as a whole to

 5    locate where the bumper is during the crash.

 6              We -- we know the seat's been moved

 7    around.  We -- we locate where it is during the

 8    crash either statically or dynamically.

 9              And then we compare that to where the

10    seat started out.  And the seat started out behind

11    where the bumper of the truck is.

12              In other words, I'm not doing it from how

13    far -- I could do it by how far the seat moved, but

14    that would be maybe not as accurate and be very

15    complex.

16              But we can simply do it from the -- from

17    the crush on the rear hatch and where it moved to

18    and -- and the front bumper on the truck and match

19    them together and know that they're sitting in the

20    rear seat where the rear seat used to be.

21              If you know the bumper of the truck is

22    sitting where there's -- where the seat used to be,

23    then you know that the rear seat was invaded and

24    moved.

25        Q     Okay.  Back to what I'm getting at.  Is
```

G. Bryant Buchner , P.E.   January 23, 2024
Bryson, Santana and Joshua v. Rough Country, LLC

Page 144

1   that you're measuring it based upon the damage to

2   the rear hatch and the location of the rear hatch,

3   not the location of the seat. That's what I was

4   trying to get.

5   And I thought you earlier said that you

6   calculated by overlay based upon the movement of

7   the seat.

8   But now I think I'm hearing you saying

9   that it was -- the bumper intrusion was calculated

10   based upon the damage to the hatch and the location

11   of the hatch?

12   A   I think you've changed -- I think you've

13   changed your question on me and are claiming you

14   didn't, but -- it's okay, it doesn't matter, the

15   answer is still the same.

16   You look at the macro damage on the

17   vehicles and match them together statically and

18   then dynamically and then you just look -- look

19   where the seat used to be and also where the seat

20   is to write these sentences that are on here.

21   Q   Okay. But the -- the seat is obviously

22   going to be impacted by the cargo which is between

23   the bumper and the seat.

24   And so my point is, you can't measure the

25   full intrusion of the bumper as it's impacting the

Veritext Legal Solutions

G. Bryant Buchner , P.E.   January 23, 2024
Bryson, Santana and Joshua v. Rough Country, LLC

Page 145

1   location of the seat without also factoring in the

2   cargo that was between -- will be between the

3   bumper and the seat.

4   And I think that's what you alluded to

5   about it being too complex of a -- an analysis

6   to -- to complete.

7   A   I disagree. I think you're -- I think

8   you're twisting it in a way that I don't fully

9   understand.

10   You -- we know the cargo is in there and

11 we know it was flattened, but, you know, we -- we

12 don't agree with your statement in your question.

13   Again, I don't understand it, but I can't

14 agree with it, but I don't understand it either.

15   Q   Well, maybe I'll try a little bit better

16 and then we'll move on.

17   But you're talking about (inaudible.)

18 You can place the bumper at its maximum intrusion

19 based upon the physical condition of the Escape,

20 right? We agree on that?

21   A   Sure.

22   Q   And I'm trying to nail down what physical

23 attributes of the Escape are you relying upon to

24 perform that overlay to put the actual Ford emblem

25 from the F250 on top of the head area of the cargo

G. Bryant Buchner , P.E.   January 23, 2024
Bryson, Santana and Joshua v. Rough Country, LLC

Page 146

 1   -- of the child seat.

 2   What specific parts of the Escape are you

 3   referencing to make that overlay? That's what I'm

 4   trying to get to.

 5   A   Okay. In the static condition after

 6   everybody's crashed and crushed and kind of sprung

 7   back a little bit, we use the imprint of the bumper

 8   on the rear hatch primarily.

 9   So it's just a -- take the front bumper

10   of the truck, slide it forward until it marries up

11   on the rear hatch damage imprint of the bumper.

12   You've got tow hooks and other things that are

13   helping you line all of that up.

14   That's -- that's just a static crush

15   after the accident.

16   But we also know that the roof of the

17   Escape came down and left two holes in the hood of

18   the truck. Meaning, that the hinges for the rear

19   hatch literally came down and hit in the roof and

20   made two very specific marks and poked holes in it.

21   So those -- those are 6 inches -- a

22   little over 6 inches from the static crush. So the

23   truck had to move an additional 6 inches forward

24   into the Escape for those marks to be left.

25   So we take our static crush, plus a

G. Bryant Buchner , P.E.   January 23, 2024
Bryson, Santana and Joshua v. Rough Country, LLC

Page 147

1   little over 6 inches, I think it is, to get a

2   dynamic crush.

3   And so we can draw a truck and Escape

4   that are matched together statically and then we

5   can move that truck in there another 6 inches and

6   show the dynamic.

7   And then once we -- once we move it in

8   there, then because we -- we've got both the

9   vehicles in a 3D dynamic -- 3D world where we can

10 look at them and dynamically rotate them. Not move

11 them, but just rotate them like on video and look

12 at them, we can see that the Ford logo is sitting,

13 you know, basically where the headrest area of the

14 child's seat used to be.

15   Q   Okay. That was exactly what I was

16 getting at. So you're -- you're using crush in the

17 hatch to establish the static extent of the -- of

18 the -- of the crush. And then the imprints from

19 the hatches, the -- the seats or whatever you call

20 the --

21   A   Hinges. Hinges.

22   Q   Hinges of the hatch where they impacted

23 the hood of the F250 to determine your dynamic

24 crush beyond the static crush, and those two

25 references on the Escape are what you're using to

G. Bryant Buchner , P.E.   January 23, 2024
Bryson, Santana and Joshua v. Rough Country, LLC

                                                      Page 148

 1   determine the full extent of the crush from the

 2   F250?

 3   A   Yes. And there is --

 4   Q   Okay.

 5   A   We look at all parts of it at the same

 6   time, but, yeah, that's the easiest explanation and

 7   most straightforward and that's -- that's how we're

 8   doing it.

 9   Q   And that's shown on this Page 10 when you

10   say that "the bumper penetrated 4.36 feet into the

11   rear hatch trunk and rear seat position areas"?

12   A   That's what I said.

13   Q   You've just explained how you came up

14   with that number?

15   A   Yes.

16   Q   Okay. On the top of Page 11, that bullet

17   point when you say that in the stock configuration,

18   the crush would have been reduced by nearly 1/2 or

19   over 2 feet, you're talking about the static

20   measurement of the crush in that bullet point,

21   right?

22   A   It'll apply to both.

23   Q   All right. I'm trying to find something.

24   A   I'm going to stand up for a second. I'm

25   more comfortable standing sometimes. I'm just

G. Bryant Buchner , P.E.   January 23, 2024
Bryson, Santana and Joshua v. Rough Country, LLC

Page 149

1   going to do this and I apologize. I hope it will

2   work out okay. I don't know if there's a

3   deposition requirement that the deponent sit.

4   Q   All right. I'm sharing the screen.

5   I'm showing a photograph that's been marked

6   IMG 1125.jpg.

7   This is taken from the photographs that

8   we have in your file. I don't have the Bates label

9   number of it, but it -- it obviously can be

10 identified by the photograph number.

11   You said upon your -- on Page 11 of your

12 report that "The Escape bumper level support

13 structures were largely intact"?

14   A   Yes.

15   Q   Can you point out in the photograph if

16 the bumper level support -- support structures are

17 largely intact?

18   A   Sure. The two gray things kind of

19 sticking down -- no, they're closest to the tires

20 on the left.

21   Q   Here and here (indicating)?

22   A   On the left closest to the tire and on

23 the right -- yes, those two on the right. You

24 know, you have to go across the bump -- the

25 muffler.

G. Bryant Buchner , P.E.   January 23, 2024
Bryson, Santana and Joshua v. Rough Country, LLC

Page 150

1   But, yeah, those are -- those are the
2   rails of the unibody and they're pushed down and
3   the bumper was torn off of them, but they didn't --
4   they didn't -- they didn't crush forward like we
5   expect to see in a rear-end collision based on, you
6   know, my years of experience.
7   Q   So when you say they're largely intact,
8   that's based upon they were not pushed forward as
9   much as you would expect based upon your
10   experience?
11   A   Yeah, relatively speaking, they're --
12   they're there to defend the vehicle and absorb the
13   forces and they didn't do that. So it's a relative
14   term, yes.
15   They're -- they're certainly not usable
16   in a new car or anything, but they're relatively
17   intact compared to what we see in rear-end
18   collisions when they get to perform helping to
19   defend the -- the vehicle.
20   Q   All right. Whoops. I'm going back to
21   your report.
22   All right. This is Page 11 of your
23   report where you are listing the maximum g's for
24   the F250 and the maximum for the Escape.
25   A   Can you share, please?

G. Bryant Buchner , P.E.   January 23, 2024
Bryson, Santana and Joshua v. Rough Country, LLC

Page 151

1   Q   Oh, I'm sorry, I thought I was sharing.

2   My bad.

3   All right, can you see it now?

4   A   Yes, sir.

5   Q   All right. When you say "The Escape was

6   near 23.6 g's," what do you mean by that? What --

7   did you have to make an actual calculation of it?

8   A   Yes. Numbers don't always model reality

9   perfectly. We try to, you know, use a reasonable

10   value.

11   The F250 reported a value of 10.4 based

12   on its weight. The Escape's based on our weights

13   and the calculation would be near 23.6. It could

14   be 23.8, could be 23.2, could be, you know,

15   something in that range, but it's -- that's our

16   best number.

17   Q   Can you perform any type of analysis and

18   check for calculations like a Monte Carlo analysis

19   or anything like that?

20   A   We -- we chose a different method. We

21   basically used three -- two different methods and

22   the two methods gave us a range, so we use that.

23   You know, we -- we could -- we can do it

24   Monte Carlo, but in this case we -- because we used

25   two different methods we believe that that gives us

Veritext Legal Solutions
800.808.4958   770.343.9696

G. Bryant Buchner , P.E.   January 23, 2024
Bryson, Santana and Joshua v. Rough Country, LLC

Page 152

1   a reasonable range.

2   Q   And how would you describe those two

3   methods? What -- what were the -- I'm confused by

4   that a little bit.

5   A   Sure. Well, one's a calculation based on

6   Campbell's original formulas and the SAE training

7   courses I've been to and the Northwestern courses

8   where you -- you calculate based on static --

9   static crush.

10   And the other is the simulation with

11 EDSMAC.

12   And then you also just use standard, you

13 know, physics calculations from accident

14 reconstruction to help relate the delta-Vs that

15 were measured in the accident to the delta-Vs based

16 on the -- the weight ratios and whatnot of the

17 Escape.

18   So that's -- that's -- that's

19 fundamentally just physics relationships where data

20 is known and you want to derive more data from it.

21   So there's three -- really three

22 different methodologies in calculating the numbers.

23   Now, that's a part from measuring which

24 is what -- what we did for crush of the accident

25 vehicle in the accident itself.

G. Bryant Buchner , P.E.   January 23, 2024
Bryson, Santana and Joshua v. Rough Country, LLC

Page 153

1   Q   The very last bullet point on this page,

2   Page 11, just so I understand it.

3   When you refer to calculations in that

4   paragraph -- that bullet point, you have the crush

5   analysis calculations we looked at for -- they may

6   be up here but maybe not -- but that's when you say

7   calculations, you're talking about the crush

8   analysis calculations that we've already talked

9   about; is that correct?

10   A   Yes.

11   Q   Are there any other calculations that

12   support that bullet point?

13   A   No, that's what I'm using.

14   Q   Okay. And then when you say simulations,

15   you're talking about HVE; is that correct?

16   A   Yeah. Yes.

17   Q   Now, did -- that uses the plural of that.

18   It's my understanding there was just one

19   simulation that you ran of the hypothetical

20   instance of a stock configuration on the F250 being

21   involved in this accident.

22   Was there more than that or is there more

23   than that one simulation?

24   A   There's only that one. Remember, I told

25   you that when we started it we needed to refine it

Page 154

1   to produce the output data that matched the F250.

2   So, yeah, when you first put it in, you

3   have to -- it takes a little bit of work to get it

4   to the proper simulation.

5   So that's -- that's the reason I think

6   there's an S in there. It's -- we really weren't

7   thinking about it when we wrote it because we're

8   just using the one final one, but that's a

9   reasonable explanation.

10   Q   All right. Are the prior simulations

11   that you ran, were they saved in any way?

12   A   No. If someone wants to rerun them,

13   they're pretty easy, you just -- I mean, it's --

14   it's a piece of cake. Like I told you, there's

15   really only one number that we changed and that's

16   the relaxation which affects the restitution which

17   I'm basically changing the restitution.

18   So if someone wants to back -- back work

19   it, they can.

20   Q   Sure. But you didn't keep up on all of

21   like what restitutions you used in the prior

22   simulator?

23   A   No. We would have basically used an

24   iterative process -- an iterative process to get

25   the answer to match the download.

G. Bryant Buchner , P.E.   January 23, 2024
Bryson, Santana and Joshua v. Rough Country, LLC

Page 155

1   Q   When you say "match the download," just

2   so I understand that, what actual data from the

3   F250 download are you trying to match in running

4   the HVE stimulator?

5   A   The impact speed and the exit speed.

6   Q   Right. Any other data you're trying to

7   match?

8   A   No.

9   Q   Okay. So you basically change around the

10 coefficient of restitution until you max those

11 speeds, and then that's what gives you confidence

12 that you've got the proper inputs from the HVE

13 simulation?

14   A   Well, we -- you know, we -- we work on

15 the vehicle itself, geometry, and all of that.

16 We're not talking about that.

17   From a calculation perspective, yes, we

18 use -- we -- we put in the crush stiffness

19 coefficients, which we've talked about.

20   Q   Right.

21   A   And then we put in the impact speed and

22 then we vary the restitution or what's also called

23 the relaxation in that particular program to

24 produce the 17.92 delta-V, I believe it is, or

25 17.93. Yes, that's -- that's all we're doing.

G. Bryant Buchner , P.E.   January 23, 2024
Bryson, Santana and Joshua v. Rough Country, LLC

Page 156

1   We're letting the program do its thing,

2   but we're giving it a little bit of guidance.

3   Q   If you have the program, how -- how does

4   that DyMESH algorithm work?

5   Do you know how to explain it in -- like

6   if you have to explain it to the jury, I'd love to

7   hear what your explanation will be for how that

8   algorithm works.

9   A   Okay. Well, as I said earlier, it's

10   based on crush stiffness coefficients that are

11   derived standardly by measuring damage at bumper

12   level.

13   But then this particular algorithm looks

14   at the -- at the whole surface of the front of the

15   vehicle and -- and tries to do -- take into account

16   all of the forces.

17   So it actually discounts those AV values

18   and more or less spreads them out across the front.

19   And then it's just going to do some of

20   the forces between the -- the back of the Escape

21   and the front of the truck and it's going to say

22   that the forces are always balanced.

23   And it's going to determine those forces

24   from the AV values, which are the strength.

25   But it's also going to use the geometry

G. Bryant Buchner , P.E.   January 23, 2024
Bryson, Santana and Joshua v. Rough Country, LLC

Page 157

1   of the vehicles that are -- are -- that DyMESH

2   uses.

3   You get an accurate geometry and so it's

4   actually trying to look at the overall contact

5   surfaces, not just the bumper level model.

6   Excuse me, let me turn this off.

7   Q   Go ahead.

8   A   My apologies.

9   So it's -- you know, it's just -- it's --

10   you used the word "complicated" earlier. It's a

11   more complicated calculation, more sophisticated

12   calculation.

13   But it gives virtually the same answer

14   that we do it -- when we do it the -- the more

15   classical way using the -- the calculator.

16   Q   Does DyMESH know the location of the

17   vehicle structures such as the frame rail over

18   where the bumper would be?

19   A   It -- it -- it does not. You do not tell

20   it, you know, exactly where the rails are or

21   anything like that.

22   It's -- just like in the standard

23   calculation, you're -- you're giving it

24   measurements at -- at a height that are usually

25   bumper level but they don't have to be bumper

Page 158

```
 1   level, so.
 2            But it's -- so really it's -- it's a
 3   variation of what we normally do, but it's doing it
 4   by looking more at the area as opposed to more of a
 5   contact line.  And that's really the difference to
 6   it.
 7            And engineering dynamics has their own
 8   algorithm for doing that.  And they -- they, of
 9   course, appreciate bumper level in -- when they
10   develop their algorithm.
11            But I don't think we're telling DyMESH --
12   we're not telling it, it's their algorithm that's
13   -- that's including it in their -- in their
14   algorithm.
15       Q    The algorithm basically assigns one
16   stiffness coefficient to the entire front or rear
17   end or whatever it's analyzing; is that correct?
18       A    Yes.
19       Q    And you can't modify that or change that
20   based upon the impact location in a particular
21   simulator?
22       A    Oh, well, you know, you could try to.
23   You could try to.  But then, again, you've got to
24   be careful where -- you're probably taking the
25   program outside the areas what it's been designed
```

Page 159

1   to be used, and then you would have to just take

2   responsibility for -- for controlling that.

3   In this case we're not, we're just using

4   it exactly as how it was designed to be used.

5   We're just using it as another calculation tool.

6   But if you get -- if you -- if you go

7   very -- very far afield, then, yes, you would run

8   into considerations that we didn't have to make.

9   Q   It's my understanding that the program

10   doesn't allow you to make those type of changes.

11   You can't adjust the stiffness coefficient to a

12   particular point on the vehicle, correct?

13   So you couldn't even run that type of

14   simulation if you wanted to using the program?

15   A   Look, we're not doing that and I'm not

16   trying to get into that. But, you know, there are

17   things you can do to these programs to influence

18   beyond just the simplified observation that you're

19   making here.

20   That's what I'm saying you shouldn't be

21   doing. And if you do, then you're totally

22   responsible for it.

23   But, you know, every -- every computer

24   program, you know, can be affected if one wants to.

25   And I'm not -- and I'm not saying it can

G. Bryant Buchner , P.E.   January 23, 2024
Bryson, Santana and Joshua v. Rough Country, LLC

Page 160

1   be done or can't be done. I'm just saying we're

2   not doing it and I don't -- I'm not aware of a way

3   to do it, but doesn't mean that someone couldn't --

4   couldn't do it.

5   Q   Maybe I'll ask it another way: If the

6   program doesn't know where the bumper or spring is

7   located on either vehicle, how can it determine

8   whether there was an override condition in the --

9   A   Well, first, it shouldn't be using an

10   override and nobody is using an override. And if

11   anybody is, I think they're -- they're -- they're

12   off the reservation and then they have to become

13   responsible for -- for that work, in validating

14   that work.

15   And there's probably ways to do that, but

16   we don't -- we haven't done that.

17   So there -- it's not an override in the

18   engineering dynamics calculation and we didn't

19   intend it to be an override and it's not looking at

20   override.

21   The accident one is an override and we're

22   looking at that ourselves. We're not trying to

23   take a program, you know, outside of what it's --

24   of what we consider a fairly normal collision.

25   Q   All right. So you didn't use them to

Veritext Legal Solutions
800.808.4958   770.343.9696

Page 161

1   predict there would be no override in the

2   simulation with the stock, you assumed that there

3   would be no override based upon all the reasons we

4   talked about that form your opinion that there

5   wouldn't be an override in the F250 stock

6   configuration? That's all I'm trying to get at.

7   A   Yeah, you're also trying to insert some

8   words in there that I can't agree with.

9   Fundamentally, the program's not designed

10   to tell me if it was an override or underride.

11   It's designed to tell me the crush at

12   whatever elevation I wanted to hit and I wouldn't

13   use it if I knew there was an override because I

14   don't -- I'm -- not normally use it, that means

15   there -- there might be a situation where you

16   couldn't use it to study something or observe

17   something.

18   But in this case, it's Bryant Buchner

19   that is letting the bumpers hit and it's letting

20   DyMESH calculate it. And DyMESH and engineering

21   dynamics intend it to be a normal collision.

22   I'm not taking an abnormal collision, I'm

23   -- I'm not validating in any shape, form or fashion

24   that it should be used for that.

25   Although, someone might manipulate

Page 162

```
 1    certain things to try to understand something for a

 2    crash and that might be okay, but that would be on

 3    their hands, not on mine.

 4         Q    Perfect.  Can the -- can DyMESH predict

 5    the twisting and collapsing of -- of vehicle

 6    components?

 7         A    It doesn't -- it doesn't -- it's -- we're

 8    not telling it -- the answer would be you might

 9    could observe something that you could -- depending

10    on the shape of the vehicle and what vehicle's in

11    it, you could observe twisting or effectively

12    twisting.

13              But no, there -- it doesn't have frame

14    rails in it.  It's not -- it's -- it's using --

15    that would have to be something you would conclude

16    based on the data.  It's -- it's not going to tell

17    you that something twisted, no.

18         Q    Okay.  Same thing, there's no mechanism

19    for DyMESH to distort the shell of how it might

20    pull on other parts of the vehicle?  It's not

21    capable of doing that either?

22         A    No.

23         Q    And -- and we obviously know that

24    components could be pulled and twisted, they

25    collapse and rotate during a crash, but that's not
```

Page 163

```
 1   part of the DyMESH --

 2        A    Well, it is but indirectly.  It's -- it's

 3   -- it's not looking at those components being

 4   twisted as you're saying, but it is -- it is

 5   representing the crush of the vehicle, which is

 6   what we do.  It's what we chose to do a long time

 7   ago was measure the crush and it's representing the

 8   crush.

 9             Why the crush is happening and how it's

10   happening involves twisting of metal and all that

11   other stuff that's going on.

12             But we don't have to -- that's called

13   finite element analysis when someone wants to model

14   that and, you know, that -- that can be done, but

15   that's a different methodology.

16             It doesn't invalidate the -- the

17   Engineering Dynamic simulation programs, it's --

18   it's actually, you know, been shown to be robust.

19        Q    Prior to this case, have you used HVE in

20   any other cases to simulate crush?

21        A    I mean, I -- I don't remember all the

22   times I've used HVE.  We normally use it to look at

23   crush, and if we're not concerned about crush, we

24   might use PC-Crash.  Or there's Brock Brothers has

25   a calculation simulation program.
```

Page 164

```
 1            So it's just one of our many tools.  I

 2   don't remember every time I've used it, but crush

 3   is normally one of the reasons why I use it because

 4   I'm -- I'm interested in what it says about crush,

 5   I'm interested in -- in -- in exploring crush.

 6        Q    What other -- like PC-Crash and Brock

 7   Brothers, would you use those to determine crush?

 8        A    No, I wouldn't.  No.  But -- I'm not

 9   saying you couldn't do it, but I'm -- I usually

10   don't.  I usually use PC-Crash as a dynamics and

11   also a momentum-based analysis.

12            That's what I prefer it for, but, you

13   know, we can -- we can -- not saying we haven't

14   used it.

15        Q    Sure.  But HVE, I guess is what you're

16   saying, is your primary simulation tool if you want

17   to explore crush?

18        A    Without knowing anymore about it, if --

19   if I just want to look at crush, I -- I tend to

20   like to use HVE because it tends to give me

21   information that I can use about crush.

22        Q    Assuming there's never been a situation

23   where you -- your use of HVE to analyze crush was

24   excluded, you know, by a court; is that correct?

25        A    That is correct.  That is correct.  There
```

G. Bryant Buchner , P.E.   January 23, 2024
Bryson, Santana and Joshua v. Rough Country, LLC

Page 165

 1   aren't any situations like that.

 2   Q   And do you specifically recall situations

 3   where you used HVE to analyze crush in a trial

 4   where that evidence was actually admissible and

 5   used by them?

 6   A   As I sit here, I don't remember any.

 7   Q   Okay.

 8   A   Or as I stand here, excuse me.

 9   Q   Do you recall whether you -- that use of

10   HVE in a -- as testimony in a case or as evidence

11   in a case whether that's ever been challenged based

12   upon Daubert or any other reason?

13   A   I've been using H -- I've been using

14   engineering dynamics programs for 30 years, over 30

15   years. It's been part of our regular work. I

16   don't ever remember it being a problem. I tend to

17   remember problems more than I do things that aren't

18   problems.

19   So my best answer is I don't -- when it

20   was appropriate, we used it, or one of the other

21   programs, and I haven't had an issue with it

22   because I try not to use it unless I believe it's a

23   reasonable representation for the study I'm trying

24   to perform.

25   Q   And what I'm getting at is, if you faced

G. Bryant Buchner , P.E.   January 23, 2024
Bryson, Santana and Joshua v. Rough Country, LLC

Page 166

1   a challenge like that before, you may have

2   collected articles, peer-reviewed studies, or other

3   material that would support your argument that

4   using HVE to study crush is a reliable, scientific

5   method for simulating, you know, crush in a

6   hypothetical case.

7   It sounds like you haven't done that; is

8   that correct?

9   A   I really haven't done that because I've

10   been using it for so long and I try to stay up --

11   up-to-date on what's going on.

12   So, I mean, I -- I feel like I -- I

13   haven't and I -- I don't remember having --

14   remember having an issue with it.

15   Q   All right.

16   A   I'd be surprised if there's going to be

17   an issue here, but I'll look at it if it comes up.

18   You know, it's -- it's just a

19   straightforward use of a program that's available,

20   been around for 30 years and it's well-respected in

21   the industry.

22   I don't have any problem using it for

23   this. I don't expect anybody else to, but if they

24   do, I'll have to address it.

25   Q   So as we sit here today, you haven't

G. Bryant Buchner , P.E.   January 23, 2024
Bryson, Santana and Joshua v. Rough Country, LLC

Page 167

1   selected any material that would support -- that

2   indicates, that you can apply it back to this case,

3   would be a reliable methodology for analyzing

4   crush?

5   MS. CANNELLA: I'm sorry, can you repeat

6   that? I couldn't hear it.

7   MR. HILL: Sure.

8   BY MR. HILL:

9   Q   What I'm getting at is, as we sit here

10   today you can't cite me to any peer-reviewed

11   articles or any other sources that would support

12   using HVE to analyze crush in a case like this one?

13   MS. CANNELLA: Object to the form of the

14   question as vague. "Case like this one" is unclear

15   what you mean.

16   BY MR. HILL:

17   Q   I've tried to establish it multiple

18   times. In a case where you're analyzing a complex

19   crush situation in a hypothetical simulation

20   involving vehicles that were not involved in the

21   actual crash itself, if that helps to define it?

22   MS. CANNELLA: You're asking him if he

23   has any papers that say you can use HVE to simulate

24   a complex crash situation in vehicles not in the

25   wreck?

G. Bryant Buchner , P.E.   January 23, 2024
Bryson, Santana and Joshua v. Rough Country, LLC

Page 168

1   MR. HILL: That's right. As he's done in

2   this case. Meaning, what support would he have

3   that that's a reliable scientific method to support

4   his opinions in this case.

5   MS. CANNELLA: Okay, object to the form

6   of the question.

7   A   Okay. Well, first, you distorted. When

8   you -- when you have the override you had, that can

9   get a little complex.

10   We know exactly what's going to happen in

11   that because we have the measurements of it. We

12   don't have to guess at other things. It's just all

13   right there.

14   But when you have the bumper-to-bumper

15   stock vehicle, that's a normal crash. That's --

16   that's as ho-hum as it gets. This is -- this is

17   maybe the simplest crash I've had all year. A car

18   stopped, a truck runs into at 52 miles an hour.

19   HVE, if it can't do that, then it can't

20   do anything. I mean, that's -- that's -- that's

21   what it's designed for.

22   And then if you go look in the

23   literature, I mean, I've already pointed you over

24   there to Northwestern. Northwestern teaches that

25   it's -- that it's a good program to use in crash

Veritext Legal Solutions
800.808.4958   770.343.9696

Page 169

1   reconstruction and it mentions, you know, to use

2   it. It's one of the options that you have. So

3   it's been referenced in that publication right

4   there.

5   It's not -- this is not a complex crash

6   that we're using it to analyze. It's about as

7   simple as a crash can get.

8   One vehicle's sitting still and gets

9   almost perfectly rear ended by another vehicle.

10   And all the program's got to do is use -- we -- we

11   tell it what the two vehicles are.

12   And then we tell it the strength of the

13   two vehicles. In case of the one vehicle it knew

14   the strength, and the other we told it the

15   strength.

16   And then we -- we changed the relaxation

17   or the coefficient of restitution until the data

18   matches the -- the crash, the pulse that was

19   recorded by the truck as far as the -- the

20   beginning and ending speed.

21   That's -- that's like a 3-foot give me

22   putt for this program. It's -- it's designed to do

23   a whole lot more than that.

24   This is -- this is the fundamental

25   purpose of the -- of the engineering dynamics was

G. Bryant Buchner , P.E.   January 23, 2024
Bryson, Santana and Joshua v. Rough Country, LLC

Page 170

1   to look at crush in collisions and calculate this

2   stuff.

3   And it goes back 30 years. This -- what

4   we're using, though, is just the latest iteration

5   of it.

6   So I kind of -- and I got a calculator,

7   too. You know, it works pretty good as well. It's

8   just a calculation tool, that's all it is for this

9   case.

10   BY MR. HILL:

11   Q   You would agree that it's obviously --

12   its results are dependent upon those variables you

13   just mentioned?

14   A   Within reason, yes. But the vagaries of

15   the -- of the variables, you know, that are -- are

16   very, very minor.

17   In other words, we use two calculation

18   methodologies that are very far apart. We got

19   2.1 feet -- less feet crush and 1 and 2.3 less feet

20   crush in the other, that's a -- that's a really

21   small window.

22   You know, if -- if it had been a large

23   window, we would have -- and maybe looked going

24   further, but we got the -- we got a very, very

25   tight result using two independent methodologies

G. Bryant Buchner , P.E.   January 23, 2024
Bryson, Santana and Joshua v. Rough Country, LLC

Page 171

1   reasonably and --

2   Q   I'm sorry, are you finished?

3   A   And we're good with that.

4   Q   A third methodology you could have

5   employed would have been to actually develop a

6   crash test involving an exemplar 2016 F250 and a

7   2008 Ford Escape. Do you agree with that?

8   A   I mean, that's possible, yes, sir.

9   Q   Yeah. And obviously, that would be a

10 real, real crash test that would not involve or be

11 subject to input variables or other variables that

12 the program and the calculations can't account?

13   A   I can't agree with the last part of it.

14 It's just a different way. You don't -- you don't

15 blame an orange tree for not bearing apples. It's

16 an orange tree. But yes, that is another thing

17 that could be used.

18   And if someone wanted to do that now,

19 there would still be variables that had to be

20 accounted for every time everyone does a crash test

21 that some guy says the humidity was different that

22 day or something.

23   I'm not saying humidity matters, it's

24 just, you know, there's always things that, you

25 know, enter into that, too. It's -- it's not

G. Bryant Buchner , P.E.   January 23, 2024
Bryson, Santana and Joshua v. Rough Country, LLC

Page 172

1   perfect, but it's -- it's a tool and can be used.

2   Sure. No problem.

3   Q   But you, in your opinion, rate an actual

4   crash test higher than the simulations or

5   calculations with regard to reliability in

6   predicting what would happen in a hypothetical

7   crash?

8   A   Well, it depends on who did it and how

9   they did it. I mean, very well -- you know, it

10   could be, it could not be, we would have to see it.

11   You know, if -- in a perfect world, I

12   would -- you know, I would like to -- I would

13   choose the crash test if it were done as well as it

14   should be done. I would tend to choose it, but,

15   you know, we'd have to see it first.

16   Q   Have you done actual crash testing of

17   vehicles in your work in the past?

18   A   Yes.

19   Q   And in those cases when you did an actual

20   crash test, did you also do like crush calculations

21   like we did in this case or -- and/or any

22   simulations or did you just rely upon the actual

23   physical crash test?

24   A   All different ways. But normally we do

25   calculations so that we can set up the crash test,

G. Bryant Buchner , P.E.   January 23, 2024
Bryson, Santana and Joshua v. Rough Country, LLC

Page 173

1   you know, so. Or sometimes do a crash test just

2   to -- just to evaluate one part of the crash.

3   So, you know, the simulation -- you know,

4   a crash test is just to explain some thing or to

5   investigate one thing and then the calculations are

6   still where the answers come. So there's all

7   different versions of it.

8   THE WITNESS: If you get to a good

9   stopping point, and I can wait, I would like to

10 take a break.

11   MR. HILL: All right. You can take a

12 break whenever you like and hopefully we're getting

13 towards the end.

14   THE WITNESS: Okay.

15   MR. HILL: Let's take a break.

16   THE WITNESS: Thank you very much.

17   VIDEO TECHNICIAN: The time is 3:10. We

18 are off the record.

19   (Recess taken.)

20   VIDEO TECHNICIAN: The time is 3:32. We

21 are back on the record.

22   MR. HILL: Thank you.

23 BY MR. HILL:

24   Q   A couple of clarifying questions

25 regarding the HVE simulation.

G. Bryant Buchner , P.E.   January 23, 2024
Bryson, Santana and Joshua v. Rough Country, LLC

Page 174

1   When you said that the initial -- and I

2   think you said relaxation coefficient is maybe the

3   term used by HVE?

4   A   Yeah, they have a relaxation link in

5   there that -- that manipulates the coefficient of

6   restitution. So that's how you get to it in this

7   particular module.

8   Q   Right. So you testified that the initial

9   relaxation values did not match up with the known

10   impact and -- you know, entry and exit velocities.

11   Is that not --

12   MS. CANNELLA: Entry and exit, what did

13   you say?

14   BY MR. HILL:

15   Q   The velocities --

16   MS. CANNELLA: Velocity.

17   BY MR. HILL:

18   Q   -- or whatever the appropriate term is.

19   A   Right, it didn't -- you know, it -- it

20   might have, but it didn't give the proper exit

21   velocity that we -- or the delta-V that we were

22   trying to use to represent this particular accident

23   because it was accident-related data.

24   And it was no surprise it didn't. We

25   knew that it would be just a fluke if it did.

G. Bryant Buchner , P.E.   January 23, 2024
Bryson, Santana and Joshua v. Rough Country, LLC

Page 175

1   Q   Sure. And the relaxation value for the

2   Ford Escape that was used in the initial

3   simulations, where did that come from?

4   A   There's not a value for the Ford Escape.

5   It's an inter-vehicle, vehicle to vehicle. So it

6   will change depending on where you hit on the

7   vehicles. You can have the exact same two

8   vehicles. Hit -- hit a little bit differently,

9   you'll get a different value.

10   So it just has a value when you turn the

11   program on and it has a value that pops up. And

12   then it's one of the things that we expect to have

13   to modify. I don't remember what the -- what the

14   value that pops up is. We call it the default

15   value. But it's pretty close to what we had.

16   Q   Is the default value based upon the

17   individual vehicles involved in the simulation or

18   was it just the standard default value?

19   A   I -- my recollection is it's just a

20   standard value that pops up. It's what the program

21   starts with.

22   Q   Okay.

23   A   It's got to have something.

24   Q   Yeah. So just that so that I understand

25   it, and I apologize for -- I'm not having one --

G. Bryant Buchner , P.E.   January 23, 2024
Bryson, Santana and Joshua v. Rough Country, LLC

Page 176

1   one millionth of the expertise you have in this,

2   but -- so you're not inputting into HVE relaxation

3   or coefficient of stiffness or restitution?

4   A   Restitution. Coefficient of restitution.

5   Q   Yeah, you're not inputting that for each

6   individual involved in the simulation? The

7   simulation is generating a combined, for lack of a

8   better word, coefficient of restitution for the

9   accident and then using that in the simulation?

10   A   That was almost but not quite. It needs

11   a value to run the simulated crash.

12   So it has a value it'll typically start

13   with, but if we know better or if we know an answer

14   at the -- at the -- after the crash, we can --

15   that's a tool we can use to get the proper input

16   and the proper exit speeds.

17   And it's called tuning. We're just

18   tuning it to match the data that we -- we believe

19   was measured and was reasonably measured and -- and

20   we're using it for our particular analysis.

21   Q   Okay. Tuning is just to that one

22   number --

23   A   Yes.

24   Q   -- that one coefficient of restitution

25   that represents the accident as a whole?

G. Bryant Buchner , P.E.   January 23, 2024
Bryson, Santana and Joshua v. Rough Country, LLC

Page 177

1   A   Yes.

2   Q   And so, why did you have to go to Neptune

3   Engineering to get the stiffness coefficient for

4   the F250 -- go ahead.

5   A   Yeah, because that's an input. It needs

6   to know a reasonable strength of the vehicles. It

7   -- some vehicles like the Escape, it already had a

8   strength in, but the F250 it didn't. And when I

9   say strength, I mean, coefficient -- crush

10   coefficients.

11   So, therefore, we told it a reasonable

12   value from Neptune Engineering to use.

13   Q   Right. So that there is a component of

14   the crush coefficient of each vehicle that HVE

15   uses?

16   A   Oh, absolutely. Yes, sir. Yes, sir.

17   Q   That was what was confusing me.

18   MS. CANNELLA: I think we might --

19   Mr. Hill, I'm sorry to interrupt you, but I think

20   you guys might be getting your wires crossed on the

21   terms, and I could be wrong, about the coefficient

22   of restitution and the crush coefficient. They're

23   different things, I think.

24   A   If -- I might have heard the question

25   wrong.

G. Bryant Buchner , P.E.   January 23, 2024
Bryson, Santana and Joshua v. Rough Country, LLC

Page 178

1   MS. CANNELLA: Okay.

2   A   So --

3   MS. CANNELLA: I don't know.

4   A   Let's just -- let me make sure to listen

5   to the question. I thank you. If we could try

6   that last one again because I might have heard it

7   wrong.

8   MR. HILL: Well, that's something we need

9   to clear up.

10   Thank you, Tedra.

11   BY MR. HILL:

12   Q   Is there a difference between crush

13   stiffness coefficient and coefficient of

14   restitution?

15   A   There absolutely is.

16   Q   Okay.

17   A   So the crush stiffness coefficients have

18   to do with the inherent strength of the vehicle.

19   And then the coefficient of restitution

20   has to do with the rebound or somewhat -- or the --

21   more or less a way -- the plasticity or elasticity

22   of the vehicles as they combine and hit each other.

23   So one is -- one is kind of the

24   springiness and the other is the strength.

25   Q   So when we're talking about stiffness

G. Bryant Buchner , P.E.   January 23, 2024
Bryson, Santana and Joshua v. Rough Country, LLC

Page 179

1   coefficients, we're talking about strength?

2   A   Yes.

3   Q   Okay. And what version of HVE did you

4   use, do you know?

5   A   It's a -- it's a recent -- I think the

6   purchase of this was last year, so it's a recent --

7   if the output doesn't tell it to us on top, I don't

8   know off the top of my head. Let me look and see.

9   Q   17.00.

10   A   That looks right.

11   Q   And that's from 2021?

12   A   Yes, sir.

13   Q   All right. And are there any new

14   versions of it come out since 2021 that you're

15   aware of?

16   A   Not that I'm aware of.

17   Q   Okay. And are you saying that there was

18   no like database of stiffness coefficients for a

19   2016 F250 contained within the HVE database?

20   A   We didn't find one when we looked, no.

21   Q   Okay. When you -- so you inputted the

22   one you got from Neptune. And was that stiffness

23   coefficient specific to any side of the F250?

24   A   It -- it was a frontal, yes.

25   Q   Okay. So you used the frontal one from

Veritext Legal Solutions
800.808.4958   770.343.9696

G. Bryant Buchner , P.E.   January 23, 2024
Bryson, Santana and Joshua v. Rough Country, LLC

Page 180

```
 1   Neptune?

 2        A     (Nodding head.)

 3        Q     And then the stiffness coefficient used

 4   for the Escape was contained within the database

 5   already or within the program for the rear?

 6        A     Yes.

 7        Q     Okay.  And then the program then

 8   generated its own coefficient of restitution to

 9   cover the entire accident?

10        A     No.  It had a value that was just in it

11   by default.

12        Q     Okay.

13        A     Not -- not knowing about this crash at

14   all.

15        Q     Okay.

16        A     And then we tuned it to match the known

17   data in this crash.

18        Q     Right.  And so, the only thing you tuned

19   was that the default coefficient of restitution you

20   didn't change the stiffness coefficients for the

21   two vehicles?

22        A     Correct.

23        Q     That's what I'm just trying to clear up.

24        A     And it's good to get it cleared up.

25        Q     Yeah.  This is not the simplest stuff, so
```

G. Bryant Buchner , P.E.   January 23, 2024
Bryson, Santana and Joshua v. Rough Country, LLC

Page 181

1   I appreciate your helping me.

2   Now, does the -- does the center of

3   gravity play any role? Is that something you have

4   to input for each vehicle?

5   A   The center of gravity is input and it

6   plays a very minor role. As long as you're even

7   reasonably close, it -- it doesn't have an effect.

8   Now, in this particular crash. In

9   others, it can. Let's say you've got really an

10   angled crash way off and it went in.

11   So in this case it is put in and then

12   it's -- it's left where it is in the -- in the

13   stock vehicles.

14   Q   Okay. So -- so when you say it -- it is

15   put in, is it put in by you, the user?

16   A   Yes, based on those weights or the specs

17   that you have that we looked at earlier, that's --

18   the CG is determined by those weights and its

19   location and that's what's in the program after we

20   put it in.

21   Q   Right. And that's -- that's kind of my

22   question, because in the HVE simulation the Escape

23   had a distribution of 60.6 percent to the front and

24   39.4 percent to the rear.

25   Is that something that HVE automatically

G. Bryant Buchner , P.E.   January 23, 2024
Bryson, Santana and Joshua v. Rough Country, LLC

Page 182

1   input or is that something that you guys input?

2   A   I'd have to go back and look on this

3   particular run. You can put occupants in and then

4   it'll make the adjustments which is fine.

5   Sometimes we put it in ahead of time.

6   With those numbers you're telling me, it

7   looks like we were accounting for occupants near --

8   near the front wheels and the rear wheels.

9   So my memory isn't perfect on that, but

10   you -- but if -- even if we left it at the original

11   57/43, it would not change the answer in this

12   particular case.

13   But it does look like -- the numbers

14   being a little bit different, it looks like that --

15   that either we or the program actually put the

16   people in the front seat. So it -- you have a

17   little more weight on the front.

18   Q   And so that 3 percent extra you would

19   attribute to the front seat occupants?

20   A   Yes, because they're -- they're sitting

21   closer to the front wheel so it adds a little bit

22   of weight towards the front.

23   Q   Right. And how did you determine the

24   weight of the front seat occupants? Did you have

25   medical records or something from them or what?

G. Bryant Buchner , P.E.   January 23, 2024
Bryson, Santana and Joshua v. Rough Country, LLC

Page 183

1   A   It's included in our -- in our materials

2   here. Take a minute to find it, but we do have

3   reference weights for all the people that were in

4   the vehicle, either with their driver's license,

5   where they often get it. Medical records is where

6   we often get it. Or even in the depositions.

7   But if we -- if you go look, there's a

8   sheet in here that tallies and -- and has the

9   references behind it. I think I have a tab called

10   Weights. Yeah, I do.

11   I have a weight sheet and behind the

12   weight sheet is the weights of the vehicles, Hunter

13   Elliott's weight. The Ford Escape, we have its

14   weight. We have the weight of Santana Bryson and

15   Joshua Bryson from their medical records. And of

16   course, Cohen Bryson.

17   So that's where we got them from.

18   Medical records of all the people.

19   Q   Is this what I put on the screen, what

20   you're referring to?

21   A   Yes, sir, that's the Result and behind it

22   should be the medical records that we used.

23   Q   Right. And the weights for the F250, you

24   have weights for the chainsaw, storage box and

25   tools. How did you come up with those weights?

Veritext Legal Solutions
800.808.4958   770.343.9696

Page 184

```
 1        A    Well, the chainsaw and the storage box

 2   are just internet searches for those objects.  And

 3   then the tools is an estimate by -- by me.  You got

 4   a storage box, some tools in it and we needed a

 5   weight.  I chose a hundred pounds based on all the

 6   tool boxes I have.

 7        Q    Okay.  And with regard to the Escape, the

 8   only thing that wasn't included would have been the

 9   spare tire and rim in the weight calculation?

10        A    No, it was in there, but it was

11   probably -- I can't tell you it was at the back or

12   in the middle seat or the front seat.  It could

13   have been moved around, but it -- it was in there.

14        Q    It was in there, you just don't know

15   which wheel it would have registered on more than

16   the -- the others?

17        A    Right.  Yes, sir.

18        Q    I understand.

19             The fact that the increase of that

20   3 percent of weight distribution to the front in

21   the Escape in your model, which by my calculations

22   would have moved the center of gravity 4 inches

23   forward, does that have any impact on your

24   simulation in your opinion?

25        A    Not in this case, it will not.  I mean,
```

G. Bryant Buchner , P.E.   January 23, 2024
Bryson, Santana and Joshua v. Rough Country, LLC

Page 185

1   it's -- it just won't have -- it just won't have an

2   effect.

3   I mean, if you're talking about, you

4   know, .01 something somewhere, which is not an

5   effect in my mind, but the -- the final answer is

6   going to be the -- the same answer.

7   Q   So the exact location of the CG is not

8   important to the HVE model in this case?

9   A   A reasonable CG location is important,

10   but moving it forward a few inches is not going to

11   change anything in this case, no, sir.

12   Q   All right. When you adjusted the -- the

13   weights -- because I guess it pulls up a generic

14   curb weight for the vehicle. Once you've input the

15   vehicle, then you have to adjust it to add for the

16   cargo and the people? Is that how it --

17   A   Yes. Yes.

18   Q   Okay. And so when you adjusted those

19   weights, do you know whether you're in total mass

20   mode or spring mass mode?

21   A   I think it's in spring mass mode. But

22   when you say mass mode, it's a spring mass, but

23   where -- where -- it doesn't matter whether we

24   change the total weight of the vehicle or we add

25   the occupants. They are a part of the sprung mass,

G. Bryant Buchner , P.E.   January 23, 2024
Bryson, Santana and Joshua v. Rough Country, LLC

Page 186

1   so that's where the program is going to put it.

2   Q   So it doesn't make any difference what

3   mode you're in, it's going to put it in the sprung

4   mass -- enter the sprung mass is what you're

5   saying?

6   A   The way we would view it, yes. I'm not

7   saying somebody can't do it a different way, but,

8   you know, we're -- we're looking at the -- at the

9   sprung mass of the vehicle.

10   You know, it doesn't -- just for what

11   it's worth, it's -- there are a lot of ways you can

12   hit a putt and have it go in the hole. Whether it

13   goes in the right side or left side, that's what

14   we're looking at here.

15   We're -- there are things that definitely

16   matter. The speeds definitely matter. The overall

17   weights, you know, within reason, you know, matter.

18   But we're not trying to say it's an

19   exact, precise, 100 percent answer. We're trying

20   to look at two independent ways to get it. We get

21   the same answer for both. It would have been less

22   -- 2 feet less crush or more.

23   But we can play with it and the answer

24   might be 2.2 or 2.1 or 2.3, but it's -- what we're

25   -- just to be clear, these things are considered

Page 187

1   when we run the program, but we don't -- it's not a

2   critical factor.

3   Q   Going back real quick to the stiffness

4   coefficient. And you've already said you used the

5   input -- the front stiffness coefficient for the

6   F250 from Neptune Engineering. And the program

7   already had the rear stiffness coefficient for the

8   Escape.

9   Did the program consider the stiffness

10 coefficients for any other side of any of the

11 vehicle?

12   A   No.

13   Q   Okay. Is that something that the program

14 allowed you to input as well?

15   A   Okay, yes, the program has those values

16 in it already. If it wants them, it can use them

17 for the Escape. For the truck, we only gave it the

18 frontals.

19   So if it wanted -- if it wanted something

20 beside, it would have to do a -- it would have to

21 do a ratio off of that or something. But it -- it

22 only required us to give it the frontals.

23   Q   So you're saying required meaning the

24 occupant, the input, the other side, if you wanted

25 to, but it wasn't required for the simulation to

G. Bryant Buchner , P.E.   January 23, 2024
Bryson, Santana and Joshua v. Rough Country, LLC

Page 188

```
 1   run?

 2         A     That's my recollection, yes, sir.

 3         Q     But it's your understanding -- since we

 4   don't have the Neptune for the other side, it's

 5   your understanding that the program did consider

 6   the stiffness for the other three sides of the

 7   F250?

 8         A     Right.

 9         Q     Okay.

10         A     It already had them loaded for the -- for

11   the Escape.  If it wanted them, they could use

12   them, but I don't think it used them.

13         Q     Are there sources for the stiffness

14   coefficient of the F250 other than like Neptune

15   Engineering?

16               I mean, isn't there NHTSA crash data and

17   other sources that you could use to determine those

18   -- those coefficients?

19         A     In a sense, but Nep -- the government

20   crash test, NHTSA, that's what Neptune uses.  The

21   government does not give you the stiffness values,

22   you have to calculate them.  We can calculate them.

23               We prefer to use Neptune for consistency.

24   Everybody else in the industry can get to it.  And

25   in my mind it's generally accepted.
```

G. Bryant Buchner , P.E.   January 23, 2024
Bryson, Santana and Joshua v. Rough Country, LLC

Page 189

1   I've known Mr. Neptune and his business

2   and -- for 30 years. Hence, I'm very comfortable

3   with -- with his process. It's -- it's a

4   standardized process.

5   There -- there are other clearinghouses

6   you could probably go to at this point in time. I

7   don't use any of the others. If I don't have -- if

8   Mr. Neptune doesn't have what I need we recalculate

9   it ourselves.

10   Q   All right. Speaking of that, were you

11 provided crash testing that was performed by Ford

12 in this case?

13   A   No.

14   Q   Okay.

15   A   Or if I did, I didn't see it.

16   Q   So you're not relying upon any crash

17 testing performed by Ford in your -- to give your

18 opinions in this case?

19   A   Well, ultimately, the -- the NHTSA test,

20 sometimes I -- so if -- if we take that out, I've

21 gotten no other crash tests that I'm looking at by

22 Ford.

23   Q   All right. And you didn't use the NHTSA

24 crash testing of Ford to calculate the stiffness

25 coefficient in this case, you -- you used the

G. Bryant Buchner , P.E.   January 23, 2024
Bryson, Santana and Joshua v. Rough Country, LLC

Page 190

1   Neptune Engineering number?

2   A   Yes. For the F250, yes. And Neptune

3   used the NHTSA data.

4   Q   Just to cover everything with HVE so I

5   don't get yelled at by my people. What environment

6   was used for the collision?

7   A   The HVE environment. There isn't -- in

8   our case we're just using a flat level plane.

9   Q   Right.

10   A   So we're -- we're really interested in

11   the crush phase which lasts, you know, a quarter

12   second. After that, nothing. We're not interested

13   in that because we're interested in the crush.

14   Q   Understood. Was the coefficient of

15   friction of the roadway involved in the simulation?

16   A   It's probably in there, but it's -- you

17   know, it's -- it's irrelevant.

18   Q   It's going to be a default value or

19   something that the program generates itself?

20   A   Yes.

21   Q   And you didn't measure the coefficient of

22   the roadway and provide that as input in the

23   simulation?

24   A   No.

25   Q   In the crush calculations that you did,

G. Bryant Buchner , P.E.   January 23, 2024
Bryson, Santana and Joshua v. Rough Country, LLC

Page 191

1   we talked about your coefficient of restitution

2   that you used for those calculations, and I believe

3   you testified it was your best estimate of an

4   appropriate coefficient of restitution of 1.1?

5   A   0.1.

6   Q   I'm sorry?

7   A   0.1.

8   Q   Yeah, I'm sorry, 0.1.

9   Did you ever tune the HVE simulation

10   using that same coefficient of restitution you can

11   use in the crush analysis?

12   A   I'm sure. We tried .1 and we didn't get

13   the -- the -- the data that had been measured by

14   the truck when we did that. So the .1's a pretty

15   easy number put in.

16   So .1 or something essentially .1, but,

17   you know, it didn't -- didn't match the input and

18   output data.

19   Q   Did you in performing your crush

20   calculations ever use the 1.4, that approximate

21   number of coefficient of restitution, that was used

22   in the HVE simulation?

23   A   No. HVE didn't use .14. Point 1 --

24   well, let me check that. I might be wrong. Thank

25   you for letting me clarify.

G. Bryant Buchner , P.E.   January 23, 2024
Bryson, Santana and Joshua v. Rough Country, LLC

Page 192

1   Q   Yeah, I can't give you the exact number,

2   I'm sorry.

3   A   Yeah, we'll get it. I'm just kind of

4   slow at flipping pages sometimes.

5   It used a .11. So HVE used a .11. In

6   our calculations we used a 0.1 for the

7   bumper-to-bumper hit which are going to be, of

8   course, different from the accident because you had

9   a bumper to tailgate hit.

10   So we -- we didn't use -- we used .1,

11   which was my judgment, and HVE we had to use a .11

12   to get it to match.

13   Q   What did you just reference to find the

14   .11 coefficient for the HVE?

15   A   You asked for the HVE reports over the

16   weekend and they were sent to you, so I'm looking

17   at the inter-vehicle collision data page.

18   Inter-vehicle collision data page.

19   Q   And are you pointing out from .113 where

20   it says "Restitution Coefficient" on the right

21   side --

22   A   Yes.

23   Q   -- here?

24   All right. And this is just reflecting

25   the final, I guess, say input that you guys put in

Page 193

1   as the coefficient that you actually use the input

2   and output speed values that you observed from the

3   download?

4   A   Yes, those are -- those are input and

5   output speeds we were targeting, and the .11 is

6   what hit the targets.

7   Q   Gotcha.

8   And you don't know what that started out

9   as from a default perspective?

10   A   I don't remember, no, sir.

11   Q   And you don't remember how many

12   variations or tuning to that you guys had to do

13   before you got the output that you expected?

14   A   No. But not -- not that we expected,

15   that we targeted. We -- we targeted specific

16   values from the download.

17   Q   Yeah, you say targeted. It's -- you're

18   just trying to match the download?

19   A   Yes.

20   Q   You're not targeting something out of the

21   blue?

22   A   Correct. Thank you.

23   Q   In your inspections of the vehicle by

24   your team, did you guys ever remove the seat covers

25   from the front seats of the Escape?

G. Bryant Buchner , P.E.   January 23, 2024
Bryson, Santana and Joshua v. Rough Country, LLC

Page 194

1   A   Talking about the little fabric covers?

2   Yes, I think we did.

3   Q   And what was the purpose of doing that?

4   A   Oh, when we were scanning it, I think --

5   I thought it would show up better or something like

6   that. It didn't -- it wasn't really part of an

7   inspection of the seat, it was just to, you know,

8   work on appearance. Or photo.

9   Q   Make the scan more accurate; is that --

10   A   Yeah, like a color variation. I don't

11   remember the color of them as I sit here, but I do

12   remember looking at that. And maybe they were

13   crumpled up in some way, but I do remember

14   adjusting that.

15   I think we did -- I think I kind of

16   removed them, but it's not a critical point. We

17   can look at the photo some, but I think we did.

18   Q   Did your team uncover any evidence that

19   the driver's seat was impacted by anything?

20   A   Oh, I wasn't looking for that.

21   Q   Okay. And again, I think we've discussed

22   that you don't intend to give any opinions as to

23   whether the child impacted the front driver seat?

24   A   That's beyond my area of expertise.

25   Q   Now, I think you've acknowledged that

G. Bryant Buchner , P.E.   January 23, 2024
Bryson, Santana and Joshua v. Rough Country, LLC

Page 195

1   there can be intrusion into the occupant space in

2   collisions that don't involve lifted vehicles; is

3   that a fair statement?

4   A   I don't think so, but maybe we can

5   clarify.

6   Q   Okay. So you -- when you say you don't

7   think so, do you think it's impossible for there to

8   be intrusion into the passenger occupant space in a

9   collision that does not involve lifted vehicles?

10   A   I didn't fully follow the question. I --

11   I think the answer, though, is, yes, a nonlifted

12   vehicle can sometimes intrude the occupant space

13   of -- of a -- the bullet vehicle that's nonlifted

14   can sometimes include the occupant space of a

15   target vehicle.

16   Q   That's all. Thank you for clarifying my

17   question, yeah.

18   A   Thank you.

19   Q   Have you ever been involved in a case

20   where there is a rear-end collision with nonlift --

21   involving -- you know, neither vehicle was lifted

22   where you observed intrusion into the occupant

23   space?

24   A   The ones I think of are commercial motor

25   vehicles. I mean, I've had them literally go all

Page 196

```
 1   the way over the top of a vehicle.
 2            But as far as passenger cars, which we're
 3   talking about here, I don't know off the top of my
 4   head.  I'm not agreeing or disagreeing, I just
 5   don't know.
 6            It's -- you know, maybe at extreme speeds
 7   or something like that, but -- but I don't have any
 8   that I'm thinking about as I sit here.
 9       Q    And how would you define "extreme
10   speeds"?
11       A    We -- we've seen hundred mile per hour
12   collisions.  That's extreme.  I wouldn't think of
13   an exact number.  I was just thinking of something
14   that's just...
15       Q    Why is there any threshold speed where
16   you would expect there to be override and intrusion
17   into the occupant space?  Is there a way for you to
18   put a number on that?
19       A    No.  It -- it depends on the accident.
20   I'm not trying to judge cars as a -- you know, as a
21   group, I'm looking -- I look at specific accidents.
22            But you ask me have I seen it, I don't
23   remember any, but, you know, we do -- we do see a
24   fair number of hundred-mile-per-hour vehicles out
25   there.  And, you know -- you know, that's where I
```

G. Bryant Buchner , P.E.   January 23, 2024
Bryson, Santana and Joshua v. Rough Country, LLC

Page 197

1   would start looking.

2   Q   Right. So you acknowledge it's possible,

3   you just can't remember a specific situation that

4   -- that you're involved in as you sit here today?

5   A   Yes, sir. And my apologies, I'm not here

6   today to remember other accidents and I have a

7   terrible memory of other accidents where I'm this

8   focused on -- on a particular problem.

9   Q   Sure. I guess on this same line, would

10 you agree that there are accidents where the speed

11 can be so severe that bumper height is not really

12 relevant to whether a person can be injured in the

13 accident?

14   MS. CANNELLA: Object to that question as

15 vague and an incomplete hypothetical.

16   A   Bumper height would still be important.

17 Bumper height could in -- in many accidents could

18 change the outcome.

19   So I -- as a -- as a general statement,

20 I -- I can't agree or disagree, we'd have to look

21 at specific events.

22 BY MR. HILL:

23   Q   I understand.

24   So you would have to be presented with a

25 specific scenario in order to give an answer to

G. Bryant Buchner , P.E.   January 23, 2024
Bryson, Santana and Joshua v. Rough Country, LLC

Page 198

1   that question?

2   A   The way I heard it. I -- I don't want to

3   give a generalization. I'd rather talk about

4   specifics.

5   Q   Give me one second here.

6   One of the items in the material you

7   provided to us is Georgia Code Section 40-8-6.

8   Did you rely upon that code section in

9   formulating any of your opinions in this case?

10   A   I don't believe I did. It's a piece of

11   background information.

12   And if the question is, was the vehicle

13   lifted more than 2 inches, yes. I think that's the

14   code you were referring to.

15   But it doesn't affect my opinion that if

16   the vehicle hadn't been lifted, you know, the --

17   the crush would have been less and all of that.

18   It's just a piece of background

19   information that I'm aware of if -- if you want to

20   compare it to the 2 inches, but I don't have a --

21   it's not there for me to give an opinion off of.

22   Q   And that's what I meant. You don't plan

23   to give any opinions on whether Mr. Elliott

24   violated that statute or not in this case?

25   A   Only -- only if I'm asked was the vehicle

G. Bryant Buchner , P.E.   January 23, 2024
Bryson, Santana and Joshua v. Rough Country, LLC

Page 199

1   lifted more than 2 inches, I will say, yes, but I'm

2   -- so I -- I have data that can help, but I'm not

3   here to say whether he violated it or not.

4   But he -- if -- if -- if the -- if the

5   hypothetical or if the ques- -- I can't use that

6   word because I don't know what it means.

7   If the question is was it lifted more

8   than 2 inches, the answer is yes. But if the

9   standard is 2 inches, then he violated the

10   standard.

11   But I'm not here to say what the standard

12   for passenger cars are specifically. I'm just --

13   it's in my file and I'm aware of it.

14   Q   Okay. You don't know how that statute's

15   interpreted, what it's -- you know, what the

16   baseline for that statute is, any of those that you

17   haven't looked into that issue?

18   A   No, sir, it's a piece of data for me.

19   Q   Okay.

20   MR. HILL: All right. Let's take just

21   another five-minute break and make sure I haven't

22   missed anything.

23   BY MR. HILL:

24   Q   If I can ask you this question, it might

25   help, but are there -- I know this is a difficult

G. Bryant Buchner , P.E.   January 23, 2024
Bryson, Santana and Joshua v. Rough Country, LLC

Page 200

1   question, but maybe you can help point me in the

2   right direction.

3   But are there any topics or areas that

4   you plan to give testimony on that we haven't

5   covered today? What am I missing?

6   MS. CANNELLA: Object to the form of the

7   question as vague, but you can answer.

8   A   In my mind, you're not missing anything.

9   We have the -- the -- you know, the support, which

10   you've gone through in the drawings. And then the

11   calculations that -- and we've talked about the

12   heights and the intrusion.

13   So I believe -- I believe we have touched

14   on all of the subjects. And you've been presented

15   with the file materials.

16   So when I'm sitting here, I'm not

17   thinking about anything that I'm waiting on you to

18   ask me about. If I did, I would tell you.

19   BY MR. HILL:

20   Q   Well, that's why I ask the question. I

21   know it's a bad question and that was a valid

22   objection, but I'll subscribe to have you point me

23   to something that I'll miss that's important to

24   your opinions.

25   MR. HILL: So let's take just a quick

G. Bryant Buchner , P.E.   January 23, 2024
Bryson, Santana and Joshua v. Rough Country, LLC

Page 201

1   10-minute break and make sure I've covered

2   everything and then we can be done.

3   THE WITNESS: See you in five minutes.

4   Thank you.

5   VIDEO TECHNICIAN: The time is 4:07.

6   We're off the record.

7   (Recess taken.)

8   VIDEO TECHNICIAN: The time is 4:22. We

9   are back on the record.

10   MR. HILL: Thanks.

11   BY MR. HILL:

12   Q   Let me share my screen here. Just a few

13   follow-up questions.

14   What I just put on the screen is 1362

15   through 1374. This is what I think we've

16   identified as the support to your report. I'm not

17   sure whether we attached this as an exhibit to the

18   report.

19   A   You did. You labeled the support as an

20   exhibit. I don't mind you doing it again, but I

21   remember you saying --

22   THE COURT REPORTER: I think it was No.

23   7, support.

24   MR. HILL: Okay. Thank you.

25   BY MR. HILL:

G. Bryant Buchner , P.E.   January 23, 2024
Bryson, Santana and Joshua v. Rough Country, LLC

Page 202

1   Q   Now, if you open this page, you have some

2   handwriting there that says: "Exemplar scan raised

3   .04 inches to account for stock tire differences."

4   And I guess that's where you're

5   indicating that your exemplar placarded car size

6   were different than the placard tire size on the

7   subject F250?

8   A   Yes.

9   Q   And -- and you have accounted for that

10   .04 -- that .04 feet. Sorry, I think I said

11   inches. The .04 feet is what that meant, is that

12   the same height?

13   A   Yes.

14   Q   Okay. And you accounted for that in all

15   of your simulations, that difference in that

16   placarded tire size between a 2015 and a 2016 F250?

17   A   Right. The simulations use the accident

18   truck stock tire size, not the exemplar. The

19   exemplar tire size wasn't -- wasn't used in a

20   simulation.

21   Q   Well, so you're saying that the

22   simulation, the HVE simulation of a nonlifted

23   version of the 2016 F250 used the tire size on --

24   that was on the subject vehicle at the time of the

25   crash?

G. Bryant Buchner , P.E.   January 23, 2024
Bryson, Santana and Joshua v. Rough Country, LLC

Page 203

1   A   No, that it came with. That it was

2   originally provided with.

3   Q   Right. And that's what I mean, is

4   that -- and it was .04 feet taller, for lack of a

5   better word, than the tires that were on your

6   subject -- on your exemplar vehicle?

7   A   Yes.

8   Q   Okay. We're on the same page.

9   When you did the crush calculations,

10   which I put up here as 3992 through 3993, help me

11   understand, is -- there's a coefficient of

12   restitution on 3993. And that would correlate with

13   the overall coefficient of restitution for the

14   accident we've been discussing in the context of

15   the HVE simulation and other (inaudible), right?

16   MS. CANNELLA: Object to the form of the

17   question as vague.

18   MR. HILL: I don't know how I could make

19   it more specific.

20   MS. CANNELLA: Which -- which accident

21   are we talking about here?

22   MR. HILL: We're talking about his

23   simulation had a coefficient of restitution that

24   was used to make each simulation.

25   BY MR. HILL:

G. Bryant Buchner , P.E.   January 23, 2024
Bryson, Santana and Joshua v. Rough Country, LLC

Page 204

1   Q   Those momentum calculations have a

2   coefficient of restitution. And I'm trying to

3   match all of those up. And does this coefficient

4   of restitution on 3993 correlate with those other

5   two coefficients of restitutions I've just

6   mentioned?

7   And when I say "correlate," I don't mean

8   are they the exact value, I'm just saying are we

9   talking about the same thing.

10   A   Actually, there's some differences there.

11 This coefficient of restitution is for a reasonable

12 value for the bumper-to-bumper collision as -- as I

13 calculated it.

14   Q   Right.

15   A   There's a value that was derived through

16 the use of the HVE program which is .11 or .118,

17 eventually the same -- essentially the same thing,

18 or .113, essentially the same as this. Both of

19 those have to do with a bumper-to-bumper crash

20 struck by the limited -- lifted.

21   But the other was an attempt to derive a

22 coefficient of restitution for the accident, but we

23 really don't need it at all because it's -- you

24 know, that accident is that accident.

25   In other words, we -- we see the crush

Page 205

1   and everything from it.

2   But -- so that's how they correlate.

3   They're different accidents, but two of them, the

4   .1 and the .11 plus are -- are for the

5   bumper-to-bumper crash.

6   Q   I understand. So -- and the momentum

7   calculation, the restitution value there is for the

8   actual crash?

9   A   Didn't hear the question.

10   Q   Okay. So I just put up the momentum

11 sheet.

12   A   Yes.

13   Q   4000. And I think that's what you were

14 saying that that restitution value on this page

15 correlates with the actual accident?

16   A   It's a -- yes, it's an attempt to get the

17 accident value for -- for the tailgate and all

18 that.

19   Q   And is that restitution value, .148, is

20 that derived from these calculations on this page?

21   A   Yes, it's -- in order to get the final

22 answers at the bottom. The V1 -- the -- the --

23 yeah, it's -- it's part of the calculation.

24   It's -- it's used to -- to make the data

25 -- the 51 and the 17.92 and the 33.08 match the

G. Bryant Buchner , P.E.   January 23, 2024
Bryson, Santana and Joshua v. Rough Country, LLC

Page 206

 1 accident.

 2   Q   Gotcha.

 3   So you can put in different values for

 4 that restitution to make it output and match the

 5 output you just mentioned on the bottom?

 6   A   Yes.

 7   Q   Okay. For these -- the crush analysis

 8 using the mathematics on 3992, are the stiffness

 9 coefficients of each vehicle a part of this

10 calculation?

11   A   Yes.

12   Q   Okay. And I -- I figured the answer was

13 yes. Where on these pages exactly do they factor

14 in?

15   A   Well, the -- in the highlighted section

16 in green at the top, the third -- I'm sorry, the

17 second and third lines are the A and B values, the

18 crush stiffness coefficients, for the F250 and the

19 Escape respectively.

20   And then down throughout the calculation,

21 those are referenced as capital A's and capital B's

22 with a standard set of calculations, if that

23 answers your question.

24   Q   It does exactly. And the AA and AB

25 stiffness coefficient, what side of the vehicle do

G. Bryant Buchner , P.E.   January 23, 2024
Bryson, Santana and Joshua v. Rough Country, LLC

Page 207

1   they represent?

2   A   The AA is for the front of the F250. And

3   the AB and BB are for the rear of the Ford Escape.

4   Q   Right. So explain again real quick

5   what's -- if the AA and BA for the F250 both relate

6   to the front of the F250, why is there two there?

7   A   It's the way strength is expressed.

8   We have an A coefficient which has to do

9   with the amount of force it takes to start doing

10   damage on the vehicle.

11   And the B coefficient helps assign energy

12   or crush stiffness as the crush progresses

13   throughout the vehicle.

14   So the -- so the -- the depth of crush is

15   looking at the B value to calculate energy or force

16   which ultimately calculates energy.

17   Q   And how did you come up with these

18   values, the AA and BA for the F250?

19   A   Well, there's a report right after this

20   from Neptune Engineering where they used a

21   government crash test.

22   Yeah, that -- that's it. It's listed

23   there.

24   And it gives you the date on the vehicle.

25   It was going 35 miles an hour on the front. That's

Page 208

1   in the very middle under the word Stiffness

2   Coefficients.

3   It ran straight into a barrier. And then

4   from the -- the damage they calculated it an A

5   value and a B value right there.

6   Q   And that's what's highlighted?

7   A   Sir?

8   Q   And that's what's highlighted on this

9   page?

10   A   I still couldn't understand you, I'm so

11   sorry.

12   Q   Don't worry. It was a dumb question

13   anyways. Glad you couldn't hear it.

14   A   Okay.

15   THE WITNESS: I think he did say,

16   Ms. Court Reporter, what you thought he said.

17   BY MR. HILL:

18   Q   The values on this page 3992 for AB and

19   BB stiffness coefficients for the Escape, are those

20   the ones that were generated by HVE when you input

21   that was the vehicle or where did you derive those

22   numbers?

23   A   Those are from an SAE paper, Society of

24   Automotive Engineers paper, that should be a few

25   pages down from here.

G. Bryant Buchner , P.E.   January 23, 2024
Bryson, Santana and Joshua v. Rough Country, LLC

Page 209

1   Right there.

2   Q   And that's 3998?

3   A   Yes. And the title of the paper will be

4   the next page, I hope.

5   Yes. It's -- yeah, so there's the SAE

6   paper number in the upper right.

7   Q   All right. And again, that's why you've

8   highlighted that. Is that the only use you've had

9   for this appendix is the highlighted numbers?

10   A   Yes.

11   Q   Okay. And do those numbers match up the

12   stiffness coefficients that were used in the HVE

13   simulation?

14   A   They're not the same.

15   Q   And again, the numbers used in the HVE

16   simulation were generated by the software because

17   it had a database for a 2008 Escape?

18   A   Yes, when we used that model car it gave

19   us AB values, so we used them as an alternative to

20   these.

21   Q   And that's what I was trying to get to,

22   is that you did use the same stiffness coefficients

23   for the F250 in both the crush analysis and in the

24   HVE simulation, but you had different stiffness of

25   coefficients for the Escape as we've just talked

G. Bryant Buchner , P.E.   January 23, 2024
Bryson, Santana and Joshua v. Rough Country, LLC

Page 210

1   about between the two analyses?

2   A   Yes.

3   Q   Okay. Does the HVE program allow you to

4   input the values on this appendix 3998 as the

5   stiffness coefficient instead of what's in the

6   database?

7   A   Sure.

8   Q   And likewise, in you doing the crush

9   analysis, you could have used the numbers generated

10 by HVE instead of the numbers in this opinion?

11   A   Yes.

12   Q   Okay. Why did you not use the same

13 numbers for the Escape in both analyses?

14   A   We were trying to produce a range of

15 values. We were doing -- trying to do a very

16 straightforward standard calculation that we do

17 using, you know, math formulas. And then we were

18 trying to do a more sophisticated computer

19 simulation.

20   And so we followed the -- you know, if we

21 do it by hand, we don't pull values out of SAE when

22 we -- I mean, out of engineering dynamics.

23   If we use the engineering dynamics, we'd

24 like to use the values they have in there.

25   So it was a way to get a range. And the

G. Bryant Buchner , P.E.   January 23, 2024
Bryson, Santana and Joshua v. Rough Country, LLC

Page 211

1   range is really tight, 2.1 to 2.3 feet less crush.

2   And we say more than 2 feet in the

3   report. So it was just -- we -- we could do more

4   work to -- you know, and put in more numbers, but

5   it's not going to change the answer we got.

6   Q   So it was just a purposeful range of the

7   parameters you used across the two analyses?

8   A   Yes.

9   Q   Okay. And is there in your opinion a way

10   to determine the potential degree of error in

11   either analysis? You know, lots of these analyses

12   say it's within a .5 percent or 5 percent de --

13   standard deviation in either direction.

14   Is there a way to establish a standard of

15   deviation in either of these analyses?

16   A   Sure. If one wanted to, one could --

17   could do something along those lines. We -- we

18   have effectively done it by using two independent

19   methods. And we're looking at where those values

20   overlap.

21   If we did the ranges, then, obviously,

22   they would -- they would overlap between them. And

23   so we feel comfortable in this methodology for --

24   for establishing a range. Other people could have

25   other ways they want to do it.

G. Bryant Buchner , P.E.   January 23, 2024
Bryson, Santana and Joshua v. Rough Country, LLC

Page 212

1   And -- and as -- as you suggested,

2   someone could -- could go about it in a different

3   way.

4   If we only had one of these methods, we'd

5   probably be doing something like what you're

6   talking about, but we had two independent methods

7   and used basic, different fundamental data in the

8   two methods, so -- and we got a range and we're --

9   we're comfortable that the -- that that brackets

10   the -- the reasonable range of answers.

11   Q   Is there any way for you to put a value

12   on the potential for error in either -- either

13   analysis?

14   A   Well, yes, but that would be a different

15   technique that we didn't use. When you have

16   multiple techniques, it's kind of like a VENN

17   diagram, you're -- you're looking at the overlaps

18   areas.

19   So we use multi -- independent

20   techniques. If you only had one technique, you

21   know, then -- then you'd have to do -- or one

22   calculation methodology, you'd have to use a

23   different technique to do the ranges.

24   But right now we have a range of 10

25   percent that ranges from 2.1 to 2.3 in that -- in

G. Bryant Buchner , P.E.   January 23, 2024
Bryson, Santana and Joshua v. Rough Country, LLC

Page 213

1   the reduced crush.

2   So, you know, we -- we've got a range of

3   10 percent between 2.1 and 2.3 and we're -- we're

4   comfortable with that.

5   Q   Understood. This is a page from the

6   support document 1367. That is a graph of the

7   simulated damage from the HVE simulation.

8   HVE did not generate this document, this

9   is something you generated separate from that

10   software, correct?

11   A   The software gives the numbers, all we

12   did is plot the numbers.

13   Q   Right. So the numbers from the software

14   would be the numbers in blue?

15   A   Yes.

16   Q   All right. And you just plotted that on

17   this. And then noted 2.1 in the red you generated

18   that -- that's the difference between the two, but

19   the red line is from your physical examination of

20   the accident vehicle?

21   A   Yes.

22   Q   Okay. Why are the values zero on the

23   ends on the blue line?

24   A   Because that's the way HVE does it.

25   It's -- it's at the end, it says there's zero

G. Bryant Buchner , P.E.   January 23, 2024
Bryson, Santana and Joshua v. Rough Country, LLC

Page 214

1   crush. It -- it's just -- it's just the way they

2   report it, that's all it is.

3   Because there's nothing to measure from

4   that far out on the vehicle. You know, where the

5   bumper -- if it's in front of the bumper, then it

6   measures to the bumper. It's just the way it's

7   reported.

8   But I'm not -- I'm not interested in

9   their reporting necessarily or the -- I am in their

10   answer. Their answer is the line -- at least

11   that's my representation of their answer.

12   So it -- you know, one could argue there

13   is crush over there and -- and I've got no problem

14   because you can see it, but way out on the ends

15   it's technically zero.

16   Q   Now, when you created the blue line, you

17   used your own judgment as to where that would

18   actually -- how far that would actually crush in

19   even though technically HVE is going to give you a

20   value of zero?

21   A   Well, no, it -- it also gives you a

22   graphical result -- I mean, a -- a 3D result you

23   can look at.

24   So you get a visualization of it. We

25   just simplified it down to a -- an elevation that

G. Bryant Buchner , P.E.   January 23, 2024
Bryson, Santana and Joshua v. Rough Country, LLC

Page 215

1   corresponds, you know, to the bumper area of the

2   vehicle.

3   Q   And again, when you mentioned elevation,

4   you're referring to that line up above 2.2 feet

5   above ground?

6   A   Yes.

7   Q   And that's the bumper height?

8   A   Well, yeah, it's within the bumper

9   height, yes.

10   Q   Yeah, to the center of the bumper height

11   or what -- how -- how is that calculated?

12   A   No, it's -- HVE has its own reporting

13   levels. This is the level that corresponds to the

14   elevation of the bumper. I don't think it's in the

15   dead center of the bumper. It's not trying to do

16   that. It's saying based on the geometry of the

17   cars that we had, this is the crush at that level.

18   Q   And does it pick that level or did you

19   input that level?

20   A   No, it picks it. It -- it -- based on

21   the geometry of the car you give it, it reports a

22   certain -- it -- it reports levels of crush.

23   And this is the one that's at the same

24   level as that red line. Or reasonably it's at the

25   level where the -- the -- the truck hit and where

Page 216

1   the truck pushed in with its bumper.

2   So we're comparing where the truck did

3   push the hatch to where the truck would have pushed

4   the bumper to on the Escape.

5   Q   Gotcha.

6   So the red line is going to be at a

7   higher level than the blue line?

8   A   Yes.

9   Q   And how did you determine the height to

10   use for the red line?

11   A   I just look at the car. There's a huge

12   bumper imprinted on the tailgate of the car.

13   Q   And you just matched it up with the

14   anticipated bumper height in the subject vehicle?

15   A   No, you just measure the -- where the

16   bumper hit. It's not anticipated. You can look at

17   it and see the bumper. I mean, it's like -- I

18   mean, you can see the shape of the bumper in

19   the tail -- in the tailgate, so you just measure

20   that.

21   Q   All right. Do you have in here any --

22   indicated anywhere what height that was, that --

23   that you determined the bumper impacted the Escape

24   in the actual accident?

25   A   Okay. Well, it's at the height it's at

Page 217

1   on the car. Remember the car has changed shape

2   quite a bit. It's been exploded is what I said.

3   So the height it's at now -- like the tow

4   hooks are a couple of inches higher than the bottom

5   of the -- of the lift gate or the -- yeah, I -- I

6   measured that.

7   So the -- the photos show the height, but

8   what's really important is the level of the height.

9   In other words, and we -- we know that

10   the -- there's an imprint of the top of the bumper

11   of the Escape on the bottom of the truck's bumper.

12   So we found the -- the tread on the --

13   that 5-inch wide bumper on the Escape made an

14   imprint on the bottom of the bumper of the truck.

15   So we know the bumper of the truck went -- went

16   over that.

17   So I can -- I can go -- we know the top

18   of the bumper was 28 inches on the Escape. So, you

19   know, we can give you all of those numbers, but --

20   but the height of the bumper -- height of the

21   damage on the car now is completely different than

22   what it was before it got exploded because the --

23   the car's been so badly damaged.

24   So the -- a lot of ways to answer it, but

25   the answer really is, is the tailgate above the

G. Bryant Buchner , P.E.   January 23, 2024
Bryson, Santana and Joshua v. Rough Country, LLC

Page 218

1   bumper where the dent is it started out being more

2   than 28 inches and now it's just at whatever height

3   the poor crushed vehicle is sitting at with flat

4   tires and everything else.

5   Q   Understood. When HVE comes up with the

6   simulation height, does it use the vehicle that's

7   struck or does it use the striking vehicle?

8   A   Well, it uses both of them. It knows the

9   shapes of the vehicle. So it knows that the bumper

10   sticks out. It knows, you know, what's going to

11   hit first. And then it runs its calculations. And

12   then when it gets done, it gives you an array of

13   heights.

14   And then as an investigator on my part, I

15   look at those and I choose which height I -- I want

16   to discuss out of all of those.

17   But it also gives you a visualization of

18   it, which you can see. And what I reported here

19   was the height, the effective height at -- at a --

20   in that 20- to 30-inch range where all the bumpers

21   are.

22   Q   Gotcha.

23   And that's what I was getting at is, it's

24   my understanding that HVE is going to give you a

25   range of heights. And you're saying you received

Page 219

1   that, but you really are only interested in or

2   commenting on the one height you selected and

3   that's the 2.2 feet?

4   A   Yeah, because that represents the maximum

5   crush.

6   Q   Right. So the other heights would have

7   less crush?

8   A   Well, technically, yes, because they

9   don't stick out as far as the bumper.

10   Q   Less crush from the end of the bumper,

11 but would they have less crush from their starting

12 point?

13   A   Yes, because your -- the bumpers have a

14 5-inch lead on everything else. And that 5-inch

15 lead effectively in the calculation makes them

16 stronger. They get -- they're already stronger,

17 but they get -- by the measure of crushing. So

18 they're going to -- they're going to -- we can go

19 plot it, but nothing's going to stick out past the

20 bumper from a practical standpoint.

21   Q   Yeah, I understand that. I'm just trying

22 to get -- let's say HVE gave you crush data for the

23 hatch in the simulation, higher than the bumper,

24 right? That data was provided by the simulation;

25 is that correct?

Page 220

1   A   I didn't understand your question. I --

2   I was -- I didn't know what you were saying coming

3   in. I heard the end but not the beginning.

4   Q   Sorry. Can you hear me now?

5   A   Yes, sir.

6   Q   All right. So even in the simulation

7   where there's bumper-to-bumper contact, there's

8   still going to be crush experienced by the hatch;

9   is that fair?

10   A   Yes.

11   Q   And there's going to be a distance of

12   that crush from the point where the hatch started

13   to the point where it ends?

14   A   Yes.

15   Q   All right. And so I'm asking about that

16   crush, that value, not from the bumpers -- the end

17   of the bumper but from the end of where the hatch

18   is?

19   A   Okay.

20   Q   Does HVE provide you that measurement of

21   crush?

22   A   It -- it does. And we can go plot it,

23   but it won't -- it'll be comparable to the blue

24   line there.

25   It won't be an effective difference that

G. Bryant Buchner , P.E.   January 23, 2024
Bryson, Santana and Joshua v. Rough Country, LLC

Page 221

1   we're -- from what we looked at in the data when we

2   got it because you can visualize it.

3   So we can actually -- instead of

4   discussing it, we can pull it up and look at it,

5   but it's all going to be very well represented --

6   yeah, there's one.

7   Q   Yeah.

8   A   There should be an angle view of that as

9   well.

10   Yeah, there you go.

11   So, you know, basically made the back of

12   a vehicle relatively flat.

13   The blue line, I think, is drawn for on

14   the bumper, but it also represents a little bit

15   above the bumper as well.

16   As you get up into the roof, the roof

17   isn't crushed at all.

18   Q   This picture on 1368, is that generated

19   solely by HVE?

20   A   Solely by HVE.

21   Q   All right. Same for 1369?

22   A   Yes.

23   Q   And then what's shown on 1370 and 1371,

24   that was generated by you using the overlays?

25   A   Yes, that's -- that's our 3-D models

G. Bryant Buchner , P.E.   January 23, 2024

Bryson, Santana and Joshua v. Rough Country, LLC

Page 222

1   stuck together.

2   Q   And that's --

3   A   And that -- yeah, and the red car there

4   is an uncrushed vehicle. That's a -- the exemplar.

5   And then the next slide, I think you

6   flipped to, with the blue vehicle is the -- that's

7   the uncrushed. Yeah, the blue vehicle or what

8   looks almost black here is the actual accident

9   vehicle.

10   Q   And that's 1372 you're referring to?

11   A   Thank you.

12   Q   And this is just your overlay of an

13   undamaged Escape illustrating the, I guess, level

14   of crush in the subject accident?

15   A   Yes. Relative to an undamaged Escape.

16   Q   All right. And then 1373, what does it

17   represent?

18   A   That's just another view of the same

19   thing you were looking at. It's the -- it's how

20   far the truck penetrated relative to an undamaged

21   Escape.

22   Q   What's the difference between 1372 and

23   1374?

24   A   Well, 1372 is the damaged Escape. 1374

25   is the damaged Escape and the exemplar undamaged

G. Bryant Buchner , P.E.   January 23, 2024
Bryson, Santana and Joshua v. Rough Country, LLC

Page 223

1   Escape occupying the exact same space.

2   And so you can -- you can see the

3   undamaged one in the red. And then, of course, you

4   can see the deformed metal of -- of blue or what

5   appears black here of the damaged one.

6   So you can see how much of the red Escape

7   had to be moved forward to produce the -- the black

8   or blue Escape.

9   Q   Gotcha.

10   All right. I'm just checking to make

11   sure I marked everything and then I'll be finished.

12   A   Okay. I'm going to stand up again,

13   please.

14   MR. HILL: And we can go off the record

15   for a second.

16   VIDEO TECHNICIAN: The time is 4:51. We

17   are off the record.

18   (Off the record.)

19   VIDEO TECHNICIAN: The time is 4:55.

20   We're back on the record.

21   MR. HILL: Thank you, Mr. Buchner, I

22   appreciate your time today. That's all that I

23   have.

24   THE WITNESS: I have a correction to a

25   mistake I made.

G. Bryant Buchner , P.E.   January 23, 2024
Bryson, Santana and Joshua v. Rough Country, LLC

Page 224

1   MR. HILL: Okay, always welcome those.

2   A   Okay. I did math. You asked me had I

3   done the calculation? I said, "No, I did it in my

4   head." And -- and I saw the amount of body lift

5   and I made a mistake.

6   We have the total lift to be 6.1 to

7   6.6 inches. And then the tires make up about half

8   an inch of that. So, therefore you're left with a

9   body lift of 6 to 6 1/2 inches.

10   So .04 feet times 12 is half an inch. So

11   effectively we still have a 6-inch -- we still have

12   a 6-inch lift, body lift within a range.

13   So I had done the math poorly earlier

14   when I said 5 1/2. I had -- I had mis --

15   misexpressed it.

16   BY MR. HILL:

17   Q   And the difference is the increase in

18   height from the non-OEM tires that were on the

19   subject F250?

20   A   Yes, that is only .04 feet.

21   Q   Right.

22   A   It's only .04 feet. And -- and so I -- I

23   did the math wrong. I used it as a .4. So that

24   was my mistake.

25   Q   And there was also a .04 difference in

G. Bryant Buchner , P.E.   January 23, 2024
Bryson, Santana and Joshua v. Rough Country, LLC

Page 225

1   feet between the 2015 tires on the -- your exemplar

2   model and the 2016 placard size?

3   A   Yeah, that's what we're taking out there.

4   We're saying the total lift on the

5   vehicle was -- I think we say 6.1 -- in the report

6   we say 6.1 inches. The effective total body lift

7   was 6.1 inches.

8   In my calculations we have it up to

9   .55 feet, which is 6.6 inches. And then we're

10 going to end up substracting .04 feet off of that

11 which is half an inch -- let me do that again.

12   12 times -- oh, no, it's not -- yeah,

13 never do calculations in a deposition. Yeah.

14   So let me -- can you go to the base data

15 summary?

16   Q   The -- the what?

17   A   It's this sheet here. It's very early in

18 the engineering analysis.

19   Q   All right. Let me see if I can find it.

20   A   Okay.

21   Q   There you go.

22   A   Okay. So the second and third boxes show

23 that the difference in height between the accident

24 and the exemplar vehicle was .55 feet.

25   And then if we come down just a little

G. Bryant Buchner , P.E.   January 23, 2024
Bryson, Santana and Joshua v. Rough Country, LLC

Page 226

```
 1   bit, we want to take the tires out of that, the

 2   .35 inches, which is in the fourth box down, is

 3   only .03 feet.

 4            So if we do .55 minus .03 we get .52.

 5   And that's .52 feet, multiply that by 12, we get 6

 6   1/4 inches.

 7            So effectively the total lift was closer

 8   to 6 1/2 and the body lift was a little over 6.

 9   Just to clarify.

10            And so 6.1 that I put in the report was

11   the body lift.  It was intended to be the body

12   lift.  So the body lift really is a little over 6

13   inches.  When you add the tires in you're closer to

14   the 6 1/2 inches.

15            So I -- I was mistaken when I said 5 1/2

16   earlier.  I missed my decimal points.  And I -- I

17   thought the .35 or the .7 that's right there was in

18   feet.  It's not.  It's -- I thought it was at

19   .07 feet, it's not, it's .07 inches, and so I made

20   a mistake.  So body lift is more than 6 inches.

21        Q    The third box that has the bracket

22   height, how did you come up with those numbers,

23   those values?

24        A    Well, I laid on the ground under both

25   vehicles and measured the height off the ground.
```

G. Bryant Buchner , P.E.   January 23, 2024
Bryson, Santana and Joshua v. Rough Country, LLC

Page 227

1   And then, you know, we, of course, check

2   the scans as best we can as well and, you know --

3   so we have two competing methods. And then --

4   Q   When you measured --

5   A   But if you look in the -- in my

6   engineering analysis, both the photos I used are in

7   there.

8   Q   All right.

9   A   With tape measures on them.

10   Q   When you measured the bracket height on

11   the exemplar and you came up with a number

12   1.05 feet, do you see that in the third box?

13   A   Yes.

14   Q   Did that take into account the

15   approximately half-inch lower the exemplar was from

16   a stock 2016 F250?

17   A   No, that's going to be taken up in the

18   tire size down below it.

19   Q   All right. So that difference does not

20   reflect the true difference between a stock and the

21   accident?

22   A   That's my recollection, yes.

23   Q   Okay. So the real difference is when you

24   have the tire size, that's taking into account the

25   fact that your exemplar was half an inch low and

G. Bryant Buchner , P.E.   January 23, 2024
Bryson, Santana and Joshua v. Rough Country, LLC

Page 228

1   that's where you get a difference of .35 inches; is

2   that -- am I reading that right?

3   A   Yeah, it's really point -- it's not quite

4   half inch, more like a third of an inch. But yeah,

5   .35 inches is the difference in your tires.

6   Q   Do you have an explanation for why a

7   4 1/2-inch lift would raise the height of the

8   vehicle 6.1 or -- or that range? What is the

9   explanation there?

10   A   Yes, I do have an explanation. What

11   they're doing -- I believe it's -- they're leveling

12   it which requires lifting the front and then

13   they're lifting.

14   So it's a combination of the leveling

15   effect and the lift effect. So at the back we're

16   lifting it more like 4 1/2 inches but at the front

17   we're lifting it more like 6, 6 1/2 inches or let's

18   just say 6 or a little more.

19   Q   And that's because from your manufacturer

20   there's a -- I don't know if the proper word, if

21   it's camber or slant, where the rear of the vehicle

22   is slightly higher than the front?

23   A   Yes. And -- yes, and that's my belief.

24   That's how the math works. That's what I look at.

25   That's what I think when I see it.

G. Bryant Buchner , P.E.   January 23, 2024
Bryson, Santana and Joshua v. Rough Country, LLC

Page 229

1   But practically the only thing I'm -- I'm

2   concerned about is how much did the front go up,

3   and the answer is a little over 6 inches.

4   Q   Did you measure how far the back went up?

5   A   Not specifically, but I remember

6   measuring the spacers that were put in and it --

7   thinking, well, that's effectively 4 1/2 inches at

8   the back. So it's very close to 4 1/2 inches.

9   Q   So you -- you suspect that the -- the

10   back was an inch and a half higher than the front

11   from its original configuration approximate?

12   A   I don't suspect one way or the other,

13   I'm -- I'm --

14   Q   Okay.

15   A   That's a good -- that's a good theory

16   from the data I've given you and I don't -- I'm not

17   going to argue about it.

18   I'm just -- from a practical standpoint I

19   just want to know how much the front went up, and,

20   you know, it's 6 inches or a little more.

21   Q   And this, while we have it up, 3970, the

22   last column just so that I make sure because that's

23   what I was asking you about before, the crush

24   analysis Escape stiffness coefficients came from

25   SAE and then the value you see under Simulation

G. Bryant Buchner , P.E.   January 23, 2024
Bryson, Santana and Joshua v. Rough Country, LLC

Page 230

1   were generated without your input by HVE?

2   A   Yes.

3   Q   Okay. Do you know how HVE comes to the

4   determination of the stiffness coefficient for the

5   Escape?

6   A   I'm pretty sure Terry Day that's been

7   part of HVE and one of the authors of the whole

8   program, I believe he determined that years ago.

9   I think if you go back through the

10   historical documents, he -- he has papers that he

11   was offering about what the crush stiffness of

12   various vehicles are. And I believe that's from

13   one of his earlier papers.

14   Q   Gotcha.

15   Do you know whether he based that on

16   actual crash testing or how he calculated that?

17   A   He -- based on his vast experience. I

18   mean, he's -- that's what he's doing with the

19   program is comparing it to crash test and staging

20   accidents and everything else.

21   So you're asking -- it's in the program,

22   it's what they're -- what you get when you pay for

23   the program. And it's -- it's a reasonable

24   representation.

25   You asked me my judgment a little bit on

G. Bryant Buchner , P.E.   January 23, 2024
Bryson, Santana and Joshua v. Rough Country, LLC

Page 231

1   where it came from and I -- I believe that if you

2   go look through everything, you'll find that Terry

3   Day was part of establishing those values because I

4   think those values show up in some of his earlier

5   papers.

6   But just to point out they're

7   conservative for this crash. In other words,

8   they're going to show -- they're -- they're --

9   they're the lowest values that we could find and so

10   they're going to overreport crush.

11   Whereas, the more -- what I believe are

12   probably more current values are going to

13   underreport crush and that's where 2.1 to 2.3 is

14   coming from.

15   Q   The same would be true for the F250, if

16   the simulation stiffness coefficients were lower,

17   how would that impact the simulation?

18   A   Well, it would shift crush to the F250.

19   So the F250 would absorb it so the Escape wouldn't

20   have to absorb it.

21   Q   And it would effectively produce crush

22   into the Escape as well?

23   A   Yes, and vice versa, of course.

24   Q   All right. And it's -- and it's your

25   belief that the simulation program does not contain

G. Bryant Buchner , P.E.   January 23, 2024
Bryson, Santana and Joshua v. Rough Country, LLC

Page 232

```
 1   values within the program for the F250?
 2         A     We didn't find them, no, sir.
 3         Q     If you had found them, would you have
 4   used them in the F -- in the HVE simulation?
 5         A     Yes.
 6         Q     Give me one second.
 7               So, again, on this if the simulation
 8   thickness coefficient for the F250, if the A value
 9   went up, that would result in it being stiffer.
10   And you're saying it would cause more crush on the
11   Escape than what the 520 value would represent; is
12   that fair?
13         A     Possibly, depending on how much it went
14   up, yes.  That would be the trend.
15         Q     And would the same be true for B?
16         A     Yes, that would be the trend.
17         Q     How much would the constant A have to go
18   up for it to increase the crush level in the
19   simulation, do you know?
20         A     It's -- no.  You know the trend, of
21   course, but it's -- it's not likely to be highly
22   sensitive to it, but it will definitely trend up.
23               But I didn't -- I don't have a
24   correlation I can tell you off the top of my head.
25         Q     And if you used higher values in your
```

G. Bryant Buchner , P.E.   January 23, 2024
Bryson, Santana and Joshua v. Rough Country, LLC

Page 233

1   crush analysis, is the same true, same trend?

2   A   Yes.

3   MR. HILL: All right. Thank you for

4   clarifying that.

5   I don't think I have any other questions.

6   MS. CANNELLA: All right. So we're done.

7   I don't have any.

8   THE WITNESS: I'll read.

9   VIDEO TECHNICIAN: This concludes the

10   videotape deposition. The time is 5:11 p.m. We

11   are off the record.

12   (Deposition concluded at 5:11 p.m.)

13   (Signature requested.)

14

15   *   *   *   *   *

16

17

18

19

20

21

22

23

24

25

G. Bryant Buchner , P.E.   January 23, 2024
Bryson, Santana and Joshua v. Rough Country, LLC

Page 234

1   The following reporter and firm
   disclosures were presented by me at this proceeding
2 for review by counsel:
                   REPORTER DISCLOSURES
3   The following representations and
   disclosures are made in compliance with Georgia
4 Law, more specifically:
              Article 10 (B) of the Rules and
5 Regulations of the Board of Court Reporting
   (disclosure forms).
6   OCGA Sections 9-11-28 (c)
   (disqualification of reporter for financial
7 interest).
              OCGA Sections 15-14-37 (a) and (b)
8 (prohibitions against contracts except on a
   case-by-case basis).
9 - I am a certified court reporter in the state of
   Georgia.
10 - I am a subcontractor for Veritext.
   - I have been assigned to make a complete and
11 accurate record of these proceedings.
   - I have no relationship of interest in the matter
12 on which I am about to report which would
   disqualify me from making a verbatim record or
13 maintaining my obligation of impartiality in
   compliance with the Code of Professional Ethics.
14 - I have no direct contract with any party in this
   action, and my compensation is determined solely by
15 the terms of my subcontractor agreement.
                   FIRM DISCLOSURES
16 - Veritext was contacted to provide reporting
   services by the noticing or taking attorney in this
17 matter.
   - There is no agreement in place that is prohibited
18 by OCGA 15-14-37(a) and (b). Any case-specific
   discounts are automatically applied to all parties,
19 at such time as any party receives a discount.
   - Transcripts: The transcript of this proceeding
20 as produced will be a true, correct, and complete
   record of the colloquies, questions, and answers as
21 submitted by the certified court reporter.
   - Exhibits: No changes will be made to the
22 exhibits as submitted by the reporter, attorneys,
   or witnesses.
23 - Password-Protected Access: Transcripts and
   exhibits relating to this proceeding will be
24 uploaded to a password-protected repository, to
   which all ordering parties will have access.
25

Veritext Legal Solutions
800.808.4958   770.343.9696

G. Bryant Buchner , P.E.   January 23, 2024
Bryson, Santana and Joshua v. Rough Country, LLC

Page 235

1   C E R T I F I C A T E
2   Deposition of: G. BRYANT BUCHNER, PE
           Date of Deposition: JANUARY 23, 2024
3
4   STATE OF GEORGIA:
5
6   I hereby certify that the foregoing
7   transcript was stenographically recorded by me
8   via Zoom as stated in the caption. The deponent
9   was duly sworn to tell the truth, the whole truth,
10   and nothing but the truth. And the colloquies,
11   statements, questions and answers thereto were
12   reduced to typewriting under my direction and
13   supervision and the deposition is a true and
14   correct record, to the best of my ability, of
15   the testimony/evidence given by the deponent.
16   I further certify that I am not a
17   relative or employee or attorney or counsel to
18   any of the parties in the case, nor am I a
19   relative or employee of such attorney or counsel,
20   nor am I financially interested in the action.
21   This, the 1st day of February 2024.
22
23
24   Judith L. Leitz Moran, CCR-B-2312
             Registered Professional Reporter
25

Veritext Legal Solutions
800.808.4958   770.343.9696

G. Bryant Buchner , P.E.   January 23, 2024
Bryson, Santana and Joshua v. Rough Country, LLC

Page 236

1   FIRM CERTIFICATE AND DISCLOSURE

2

3   Veritext represents that the foregoing transcript
      as produced by our Production Coordinators, Georgia
4   Certified Notaries, is a true, correct and complete
      transcript of the colloquies, questions and answers
5   as submitted by the certified court reporter in
      this case. Veritext further represents that the
6   attached exhibits, if any, are a true, correct and
      complete copy as submitted by the certified
7   reporter, attorneys or witness in this case; and
      that the exhibits were handled and produced
8   exclusively through our Production Coordinators,
      Georgia Certified Notaries. Copies of notarized
9   production certificates related to this proceeding
      are available upon request to
10   production@veritext.com
11   Veritext is not taking this deposition under any
      relationship that is prohibited by OCGA 15-14-37
12   (a) and (b). Case-specific discounts are
      automatically applied to all parties, at such time
13   as any party receives a discount. Ancillary
      services such as calendar and financial reports are
14   available to all parties upon request.
15
16
17
18
19
20
21
22
23
24
25

G. Bryant Buchner , P.E.   January 23, 2024
Bryson, Santana and Joshua v. Rough Country, LLC

Page 237

1   TO: Tedra L. Cannella, Esq.   tedra@cannellasnyder.com
2   Re: Signature of Deponent G. Bryant Buchner, PE
3   Date Errata due back at our offices: 30 days
4
5   Greetings:
6   The Deponent has reserved the right to read and
    sign. Please have the deponent review the attached
7   PDF transcript, noting any changes or corrections
    on the attached PDF Errata. The deponent may fill
8   out the Errata electronically or print and fill out
    manually.
9
    Once the Errata is signed by the Deponent and
10 notarized, please mail it to the offices of
    Veritext (below).
11
    When the signed Errata is returned to us, we will
12 seal and forward to the taking attorney to file
    with the original transcript. We will also send
13 copies of the Errata to all ordering parties.
14 If the signed Errata is not returned within the
    time above, the original transcript may be filed
15 with the court without the signature of the
    Deponent.
16
17 Please send completed Errata to:
    Veritext Production Facility
18 20 Mansell Court E, Suite 300
    Roswell, Georgia 30076
19 (770) 343-9696
    cs-southeast@veritext.com
20
21
22
23
24
25

Veritext Legal Solutions
800.808.4958   770.343.9696

G. Bryant Buchner , P.E.   January 23, 2024

Bryson, Santana and Joshua v. Rough Country, LLC

Page 238

1   ERRATA FOR ASSIGNMENT NO. 6395968

2   I, the undersigned, do hereby certify that I have

3   read the transcript of my testimony, and that

4

5   _____ There are no changes noted.

6   _____ The following changes are noted:

7

8   Pursuant to Rule 30(7)(e) of the Federal Rules of

9   Civil Procedure and/or OCGA 9-11-30(e), any changes

10   in form or substance which you desire to make to

11   your deposition testimony shall be entered upon the

12   deposition with a statement of the reasons given

13   for making them. To assist you in making any such

14   corrections, please use the form below. If

15   supplemental or additional pages are necessary,

16   please finish same and attach them to this errata

17   sheet.

18

19   Page/Line/   Change   /   Reason

20   ____/____/_____/_____

21   ____/____/_____/_____

22   ____/____/_____/_____

23   ____/____/_____/_____

24   ____/____/_____/_____

25   ____/____/_____/_____

G. Bryant Buchner , P.E.   January 23, 2024

Bryson, Santana and Joshua v. Rough Country, LLC

Page 239

```
 1   Page/Line/      Change     /     Reason
 2   ____/____/_____/_____
 3   ____/____/_____/_____
 4   ____/____/_____/_____
 5   ____/____/_____/_____
 6   ____/____/_____/_____
 7   ____/____/_____/_____
 8   ____/____/_____/_____
 9   ____/____/_____/_____
10   ____/____/_____/_____
11   ____/____/_____/_____
12   ____/____/_____/_____
13   ____/____/_____/_____
14   ____/____/_____/_____
15   ____/____/_____/_____
16
17
18                       _____
19                       G. BRYANT BUCHNER, PE
20
21   Sworn to and subscribed before me

     this _____ day of _____, 20__.
22
23   _____
24   Notary Public.
25   My Commission Expires _____.
```

G. Bryant Buchner , P.E.   January 23, 2024
Bryson, Santana and Joshua v. Rough Country, LLC

[& - 1st]   Page 1

&			
& 2:14	170:19 191:12	**11** 3:16 137:20	**1373** 222:16

0

0 111:22
0.1 192:6
0.1. 119:9
  191:5,7,8
0.148 112:18
0.4 129:20
  138:9
0.7 138:10
  139:22,25
001350 3:20
001361 3:20
001362 3:22
003990 3:25
003995 129:19
003999 3:25
01 185:4
017 1:8
03 226:3,4
04 97:1,2 98:1
  98:11 202:3,10
  202:10,11
  203:4 224:10
  224:20,22,25
  225:10
07 226:19,19
08 127:14

1

1 3:8 10:16,19
  19:4 76:3
  119:16 120:10
  120:15 130:21

170:19 191:12
191:16,16,23
192:10 205:4
1's 191:14
1,800 50:18
1.05 227:12
1.1 191:4
1.4 191:20
1/2 57:22 58:1
  58:4,11 59:3
  59:13,22 138:6
  138:7,12,13,20
  138:22,23
  148:18 224:9
  224:14 226:8
  226:14,15
  228:7,16,17
  229:7,8
1/4 226:6
10 3:8 15:2
  79:19,20 80:25
  80:25 86:15
  116:9 117:15
  137:21 148:9
  201:1 212:24
  213:3 234:4
10.4 151:11
10/12 71:19
10/12/2023
  3:19
10/13 71:7,18
100 52:18
  186:19
105 52:18

11 3:16 137:20
  148:16 149:11
  150:22 153:2
  192:5,5,11,14
  193:5 204:16
  205:4
11/20/22 12:21
1125.jpg. 149:6
113 192:19
  204:18
117 3:23
118 204:16
11:13 1:18 4:2
  4:5
11:21 11:24
11:24 12:2
12 3:13 224:10
  225:12 226:5
1278 235:23
12:32 70:13
12:48 70:16
12th 73:20 74:1
1350 73:23
1359 137:21
1361 73:24
1362 74:23
  75:12 201:14
1367 213:6
1368 221:18
1369 221:21
1370 221:23
1371 221:23
1372 222:10,22
  222:24

1373 222:16
1374 3:22
  74:23 75:12
  201:15 222:23
  222:24
14 64:15 90:13
  191:23
14.75 64:4,16
  65:7
148 114:4
  119:21,24
  205:19
14th 69:6
15-14-37 234:7
  234:18 236:11
150 52:3,14
16th 51:13
17 3:15
17.00. 179:9
17.92 90:12
  113:23 155:24
  205:25
17.93. 155:25
17th 53:24
18 45:20,21,22
  140:11
19.3 107:5
1:25 99:24
1:28 100:3
1:49 116:2
1:58 116:5
1st 235:21

G. Bryant Buchner , P.E.
Bryson, Santana and Joshua v. Rough Country, LLC

January 23, 2024

[2 - 4]

Page 2

G. Bryant Buchner , P.E.   January 23, 2024
Bryson, Santana and Joshua v. Rough Country, LLC

[4 - access]   Page 3

59:13,22 85:21
85:24 86:6
184:22 224:23
228:7,16 229:7
229:8
4.36 148:10
40 115:2
40-8-6 198:7
40.6 111:13
40.6. 111:20
400 52:15
4000 112:14
205:13
43 3:14 127:21
128:2
45 38:22 76:8
450 64:5
48 98:17
49 93:16
4:07 201:5
4:22 201:8
4:51 223:16
4:55 223:19

5

5 3:3,18 50:22
51:3 102:19
127:6,8,10
128:18,25
129:2,11
138:12,13,20
138:22,23
211:12,12
217:13 219:14
219:14 224:14
226:15

50 3:17,18
46:23,24
50/50 46:17
47:13,20
51 113:23
205:25
52 168:18
226:4,5
520 232:11
55 76:4,9 225:9
225:24 226:4
563 93:16
57 127:21
128:1
57/43 182:11
5:11 233:10,12

6

6 3:19 57:23
58:1,3,9 59:3
59:13 73:13,15
94:21 101:6,7
101:7 102:16
106:3 137:24
138:6,6,6,7
146:21,22,23
147:1,5 224:9
224:9,11,12
226:5,8,8,12,14
226:20 228:17
228:17,18
229:3,20
6.1 101:8 224:6
225:5,6,7
226:10 228:8

6.6 224:7 225:9
60.6 181:23
6395968 238:1
65,000 70:1
6th 64:5

7

7 3:21 75:12,14
99:17 100:5
103:19 201:23
226:17 238:8
73 3:19
75 3:21 86:14
87:4
770 237:19

8

8 3:23 103:19
105:5,15 117:6
8,040 88:23
885 2:8

9

9 108:4
9-11-28 234:6
9-11-30 238:9
9/6 66:10
999 117:11

a

a.m. 1:18 4:2,5
aa 206:24
207:2,5,18
ab 206:24
207:3 208:18
209:19
abilities 5:24
8:25

ability 235:14
able 6:12,23
7:20 12:6
31:21 44:16
58:16 59:5,12
63:13 72:15
124:1
abnormal
136:19,25
137:4 161:22
above 33:15
34:9 114:21
131:20 132:6
132:10 133:5
133:23 138:12
215:4,5 217:25
221:15 237:14
abreast 14:23
abs 109:11
absent 140:4
absolutely
177:16 178:15
absolutism
30:5 31:13
absorb 33:7
150:12 231:19
231:20
accelerations
21:6
accept 51:24
acceptable 97:3
accepted
188:25
access 234:23
234:24

G. Bryant Buchner , P.E.   January 23, 2024
Bryson, Santana and Joshua v. Rough Country, LLC

[accident - additional]   Page 4

accident 9:3
 16:5 17:13
 18:5,8,9,11,16
 18:18,19,25
 19:3,6,8,10
 20:5,18,22,25
 21:2,4 24:2
 26:11 27:6,10
 27:16,23 32:8
 33:5 36:14
 37:9,18,20
 38:18 42:8
 44:5,12 53:15
 64:8 65:25
 66:10,24 69:8
 69:11,14 78:17
 86:10 89:21
 95:1 96:9 97:1
 97:25 98:4,25
 100:17,25
 102:6 110:3
 114:4 116:16
 117:18 118:3
 118:13,21
 119:24 120:1,5
 120:22 121:13
 122:11,24
 125:4,4,6,8,9
 125:14 138:17
 146:15 152:13
 152:15,24,25
 153:21 160:21
 174:22,23
 176:9,25 180:9
 192:8 196:19

 197:13 202:17
 203:14,20
 204:22,24,24
 205:15,17
 206:1 213:20
 216:24 222:8
 222:14 225:23
 227:21
accidents 44:9
 196:21 197:6,7
 197:10,17
 205:3 230:20
account 82:21
 97:21 100:22
 102:8 134:11
 156:15 171:12
 202:3 227:14
 227:24
accounted
 110:22 111:6
 171:20 202:9
 202:14
accounting
 182:7
accurate 69:17
 77:7,17 143:14
 157:3 194:9
 234:11
acknowledge
 197:2
acknowledged
 194:25
acm 106:24,25
 107:12,16
 108:5,17

acms 108:1
act 27:2 35:3
acting 36:8
action 52:12
 86:9 234:14
 235:20
activities 53:22
 67:4
actual 6:3
 18:11,15,18
 19:8,8,10
 20:17 21:2,4
 26:6,8,11
 27:16,22 28:22
 28:25 31:2,6
 32:24 37:8
 39:2 52:8,25
 66:24 84:20
 86:3 90:22
 94:25 107:10
 107:15 110:3
 118:10 140:3
 145:24 151:7
 155:2 167:21
 172:3,16,19,22
 205:8,15
 216:24 222:8
 230:16
actuality
 107:24
actually 8:20
 11:21 13:25
 14:25 16:20
 18:19 19:1
 20:23,23 24:13

 26:21,22 27:13
 30:19 34:23
 38:9 47:11
 56:20,23 57:5
 57:12 64:7,10
 64:13 77:5,16
 79:19 87:7
 89:11 95:19
 101:23 102:1
 103:3 104:1
 107:13 110:9
 111:25 112:20
 121:16,17
 122:12 131:3
 138:24 140:10
 156:17 157:4
 163:18 165:4
 171:5 182:15
 193:1 204:10
 214:18,18
 221:3
adapt 132:24
 134:2
add 28:13
 38:18,18 82:14
 129:10,20
 138:14 185:15
 185:24 226:13
added 110:11
adding 28:14
 89:17 134:22
additional
 14:15 55:13
 68:5,24,25
 106:4 146:23

G. Bryant Buchner , P.E.   January 23, 2024
Bryson, Santana and Joshua v. Rough Country, LLC

[additional - answer]   Page 5

238:15
address   166:24
adds   182:21
adjust   32:14
  98:20 159:11
  185:15
adjusted
  185:12,18
adjusting   17:18
  17:24 194:14
adjustment
  99:14
adjustments
  16:3 17:6,7
  182:4
administrators
  1:4
admissible
  165:4
admittedly
  22:5
adr   107:6
advantages
  21:20
aerial   53:14
  61:22
aerials   61:17
affect   133:20
  198:15
affected   135:22
  159:24
affects   154:16
afield   159:7
afraid   93:6

aftermarket
  97:17
age   26:3
ago   7:2 9:4,4
  13:24 14:12
  66:1 111:21
  112:5 163:7
  230:8
agree   31:4
  32:12 40:10,23
  91:9 145:12,14
  145:20 161:8
  170:11 171:7
  171:13 197:10
  197:20
agreed   10:11
agreeing   196:4
agreement
  234:15,17
ahead   60:4
  89:8 134:19
  157:7 177:4
  182:5
aiding   55:2
airbag   91:22
  92:1,4,9,15
airbags   74:5
  107:13,18
algorithm
  156:4,8,13
  158:8,10,12,14
  158:15
allow   25:17
  79:4 159:10
  210:3

allowed   79:1
  187:14
alluded   49:15
  66:1 145:4
alternative
  209:19
amended   3:9
  73:25
amount   26:16
  29:24 46:3
  66:9 70:3 78:2
  78:11 116:14
  116:23 207:9
  224:4
anal   40:14
analyses   210:1
  210:13 211:7
  211:11,15
analysis   18:25
  24:21 44:5
  53:24 54:6
  55:11 66:18
  79:24 84:3,18
  84:23 85:19
  106:24 115:4
  116:10 117:10
  117:14 125:12
  126:24 128:13
  128:16 130:9
  130:13 134:13
  135:16 137:22
  138:4 140:17
  145:5 151:17
  151:18 153:5,8
  163:13 164:11

176:20 191:11
  206:7 209:23
  210:9 211:11
  212:13 225:18
  227:6 229:24
  233:1
analyze   30:19
  37:2 38:5
  116:23 137:7
  164:23 165:3
  167:12 169:6
analyzing
  40:12 125:12
  158:17 167:3
  167:18
ancillary
  236:13
angle   221:8
angled   181:10
ans   37:13
answer   18:16
  24:7 25:1 27:7
  30:7 35:11,12
  36:6 38:24
  49:19 77:9
  88:19 96:19
  97:24 101:5
  104:3 109:8
  113:2 132:23
  138:22 139:9,9
  144:15 154:25
  157:13 162:8
  165:19 176:13
  182:11 185:5,6
  186:19,21,23

G. Bryant Buchner , P.E.   January 23, 2024
Bryson, Santana and Joshua v. Rough Country, LLC

[answer - assigns]   Page 6

195:11 197:25
199:8 200:7
206:12 211:5
214:10,10,11
217:24,25
229:3
answered
31:18 37:4
40:2 92:18
112:7 137:11
answering
38:12,14 49:18
answers 38:15
114:22 115:1,2
173:6 205:22
206:23 212:10
234:20 235:11
236:4
anticipated
37:18 216:14
216:16
anticipation
11:1
anybody 7:8
9:25 160:11
166:23
anymore 36:21
39:2 164:18
anyway 111:22
anyways 26:14
81:20 91:14
208:13
apart 36:22
79:4 170:18

apologies 157:8
197:5
apologize 63:17
66:16 105:12
113:15 149:1
175:25
apparent
121:11
apparently
71:20 89:24
appear 55:20
56:1
appearance
194:8
appearances
2:1
appeared 4:1
appearing 1:14
appears 12:20
51:12,12 53:23
56:1 64:3 66:9
223:5
appendix 209:9
210:4
apples 33:3
136:9 171:15
applied 90:19
234:18 236:12
apply 148:22
167:2
appreciate 30:7
70:10 75:23
158:9 181:1
223:22

appreciated
36:11
approach
28:20 30:4
102:3
appropriate
25:6 32:23
33:20 34:7
39:4,6,11,14
165:20 174:18
191:4
appropriately
37:14
approximate
191:20 229:11
approximately
4:5 14:11 70:1
111:15 117:25
227:15
archive 6:24
archived 6:18
6:20
area 83:11
84:25 85:3,10
89:2 92:3
102:18,21
103:4,5,6
121:16 123:22
133:3,17
134:22 135:13
140:24 142:7
145:25 147:13
158:4 194:24
215:1

areas 35:16
148:11 158:25
200:3 212:18
argue 214:12
229:17
argument
126:14,18
166:3
arms 135:2
array 218:12
article 234:4
articles 166:2
167:11
asked 34:16
45:10 46:11
47:22 49:14
87:13 92:17
104:1 107:21
192:15 198:25
224:2 230:25
asking 37:7,13
38:13 59:25
100:5 105:17
112:11 142:17
167:22 220:15
229:23 230:21
asks 47:10
aspect 22:19
assign 207:11
assigned
234:10
assignment
238:1
assigns 158:15

G. Bryant Buchner , P.E.   January 23, 2024
Bryson, Santana and Joshua v. Rough Country, LLC

[assist - based]   Page 7

assist 40:16 238:13
associated 23:22 49:7 93:24
association 50:14
assume 30:20 52:16 64:5 65:11
assumed 161:2
assumes 29:2
assuming 11:7 13:18 69:7 74:14 88:23 120:18,20 164:22
atlanta 2:17 56:17
attach 10:18 238:16
attached 10:20 75:8 79:2 95:19 201:17 236:6 237:6,7
attachment 75:1
attempt 10:8 204:21 205:16
attention 48:17
attorney 234:16 235:17 235:19 237:12
attorneys 234:22 236:7

attribute 182:19
attributes 145:23
audio 11:22 63:17 99:19 103:16
authors 230:7
automatically 181:25 234:18 236:12
automotive 208:24
autostat 127:13
autostats 126:23
av 156:17,24
available 31:17 61:21 63:8 96:11 166:19 236:9,14
avenue 2:7
aware 6:11 11:16 43:14 49:11 68:24 76:8 160:2 179:15,16 198:19 199:13
axis 127:25
axle 128:2,3

b

b 1:23 3:5 45:7 206:17 207:11 207:15 208:5 232:15 234:4,7

234:18 235:24 236:12
b's 206:21
ba 207:5,18
back 12:3 15:13 27:4 30:13 34:20,21 41:12 43:12 47:18 53:7 54:19,20,21 61:3 63:7 65:8 67:23 70:12,17 74:9 76:7,10 79:9 81:2 82:17 83:17 85:16 87:15,16 87:18,23 88:7 88:9 89:5 90:1 92:16,23 100:3 107:23 112:21 112:21 116:6,9 122:2 125:1 127:2,6,22 138:14 141:13 143:25 146:7 150:20 154:18 154:18 156:20 167:2 170:3 173:21 182:2 184:11 187:3 201:9 221:11 223:20 228:15 229:4,8,10 230:9 237:3

background 60:21 198:11 198:18
backseat 33:6 82:18 83:9,9 83:10 88:13
bad 89:9 151:2 200:21
badly 78:5 217:23
balance 47:19 112:2 113:22 114:3,24 119:25
balanced 156:22
bar 34:17 121:17 123:21 124:6,8,10 126:7 129:23
barrier 23:23 208:3
base 60:6,8,8,9 60:12 61:10 103:6,7 225:14
based 10:25 87:21 90:11 92:5 103:24 119:11 120:21 120:24,25 123:16 131:3 131:19 139:3 140:8 141:21 141:23 144:1,6 144:10 145:19

G. Bryant Buchner , P.E.   January 23, 2024
Bryson, Santana and Joshua v. Rough Country, LLC

[based - body]   Page 8

150:5,8,9
151:11,12
152:5,8,15
156:10 158:20
161:3 162:16
164:11 165:11
175:16 181:16
184:5 215:16
215:20 230:15
230:17
baseline 18:10
28:23 31:5
199:16
basic 212:7
basically 11:12
15:17 28:14
36:18 39:16,16
45:2 66:15
79:10 82:14
111:5 113:19
124:12 131:23
132:21 140:18
147:13 151:21
154:17,23
155:9 158:15
221:11
basis 81:18
140:9 141:8
234:8
bate 68:17
129:19
bates 73:23
117:10 149:8
bb 207:3
208:19

bearing 171:15
beginning
12:11 22:11
25:13,14 119:5
169:20 220:3
begins 105:16
behalf 2:3,11
4:18 46:24,25
belief 71:12
84:6 123:17
228:23 231:25
believe 6:3 9:2
13:14 21:22
22:25 30:10
39:4,10 50:1
51:3,8 52:2
58:10 72:1,5
73:8 84:16
94:22 108:11
113:24 117:21
120:22 130:22
151:25 155:24
165:22 176:18
191:2 198:10
200:13,13
228:11 230:8
230:12 231:1
231:11
believed 39:8
50:25 114:3
believing 44:8
bend 24:13,14
26:19 122:14
135:1

bends 24:15
beneficial
19:18
benefit 75:9
bent 77:24 78:1
78:4 127:4
best 5:23 8:24
27:7 49:19
88:13 151:16
165:19 191:3
227:2 235:14
better 29:25
30:1 32:3,5
55:1 97:20,24
102:14 141:18
145:15 176:8
176:13 194:5
203:5
beyond 127:10
147:24 159:18
194:24
big 18:13 125:5
bill 54:10 55:8
64:3 65:10,13
69:4,5
billboard
122:25 126:9
billed 51:23
54:24 55:4,10
55:17,20 56:2
66:9
billing 53:6,7
68:1 70:5,24
billings 70:1

bills 63:19,23
67:22 69:2
biomechanic
84:22
biomechanical
85:12
bit 17:11,24
22:10 24:15,16
55:16 88:15
113:10 134:21
141:12 145:15
146:7 152:4
154:3 156:2
175:8 182:14
182:21 217:2
221:14 226:1
230:25
bites 15:18
black 93:23
222:8 223:5,7
blah 56:24
blame 171:15
blanks 20:12
21:12
blue 117:19,21
118:8,15
193:21 213:14
213:23 214:16
216:7 220:23
221:13 222:6,7
223:4,8
board 234:5
body 96:14
224:4,9,12
225:6 226:8,11

G. Bryant Buchner , P.E.   January 23, 2024
Bryson, Santana and Joshua v. Rough Country, LLC

[body - c.f.r.]   Page 9

226:11,12,20
boils 18:14
bolted 79:2
book 41:19
  42:3
books 41:12,15
bottom 66:8
  102:16,18,22
  102:23,24,25
  103:2 205:22
  206:5 217:4,11
  217:14
bought 57:21
  57:22
bounces 78:9
box 32:3 43:5
  93:2,23 183:24
  184:1,4 226:2
  226:21 227:12
boxes 184:6
  225:22
bracket 226:21
  227:10
brackets 78:20
  79:5 212:9
brain 21:19
break 63:11,13
  63:15,19,21
  67:19,21 70:9
  90:8 113:13
  115:24 173:10
  173:12,15
  199:21 201:1
breakdown
  46:10,17

briefly 11:21
bring 5:16
  12:25
brock 163:24
  164:6
brothers
  163:24 164:7
brought 5:11
  11:11,12
bryant 1:13
  3:12,14 4:8 5:1
  161:18 235:2
  237:2 239:19
bryson 1:4,4
  3:20,22,25
  73:23 74:23
  112:14 137:21
  183:14,15,16
buchner 1:13
  3:12,15 4:8,22
  5:1,3,6 73:18
  161:18 223:21
  235:2 237:2
  239:19
built 33:13
bullet 13:16
  77:22 80:2
  88:22 137:22
  140:6 148:16
  148:20 153:1,4
  153:12 195:13
bump 149:24
bumper 28:3,3
  29:20,20 30:16
  30:16,22,23,23

33:15 34:9,10
34:17,17 36:3
36:3 39:7,7,22
39:22 77:23
78:7,8,13,21,22
79:1,1,3 88:1
105:25 120:7,7
120:10,14,18
121:7,16,17
122:1,2,7,7,12
122:13,14
123:15,18,19
123:20,21,22
124:3,3,6,7,10
124:19 126:7
126:15,16
127:3,6,9
128:20 129:3
129:11 130:15
130:17,19
131:5,13,19,21
131:24 132:8
132:11,11,12
132:16,21,23
133:1,22 136:7
136:8,16,18,20
136:23 137:6,6
137:13,13
140:6,10,13,18
140:21,23
141:4 142:1,18
143:5,11,18,21
144:9,23,25
145:3,18 146:7
146:9,11

148:10 149:12
149:16 150:3
156:11 157:5
157:18,25,25
158:9 160:6
168:14,14
192:7,7,9
197:11,16,17
204:12,12,19
204:19 205:5,5
214:5,5,6
215:1,7,8,10,14
215:15 216:1,4
216:12,14,16
216:17,18,23
217:10,11,13
217:14,15,18
217:20 218:1,9
219:9,10,20,23
220:7,7,17
221:14,15
bumpers 78:4
  120:25 124:13
  124:13 161:19
  218:20 219:13
  220:16
business 189:1
busy 53:12
butler 47:25
buy 96:23

| |
| c |

c 33:6 234:6
  235:1,1
c.f.r. 93:16,18

G. Bryant Buchner , P.E.   January 23, 2024
Bryson, Santana and Joshua v. Rough Country, LLC

[c.z.b. - car's]   Page 10

c.z.b. 1:5,6
cad 101:17,18
  101:25 105:5
  105:16
cake 125:22
  154:14
calculate 21:7
  24:23 41:10
  109:7 111:2
  132:9 137:2,5
  152:8 161:20
  170:1 188:22
  188:22 189:24
  207:15
calculated 3:23
  112:18 117:19
  117:20 118:9
  119:10,20
  139:2,5,22,24
  144:6,9 204:13
  208:4 215:11
  230:16
calculates
  117:24 207:16
calculating
  109:20 118:22
  131:13 135:25
  136:12 152:22
calculation
  29:11 106:7
  111:13 112:7
  112:22 114:18
  115:17,18,20
  118:25 120:4
  132:13,14

151:7,13 152:5
155:17 157:11
157:12,23
159:5 160:18
163:25 170:8
170:17 184:9
205:7,23
206:10,20
210:16 212:22
219:15 224:3
calculations
  21:9,16 67:9
  84:5 87:8
  109:25 110:9
  110:18 111:9
  115:19 116:14
  118:11 119:11
  119:12,13,21
  120:6,17
  130:12 132:21
  133:2,5 138:25
  139:3,12,17
  151:18 152:13
  153:3,5,7,8,11
  171:12 172:5
  172:20,25
  173:5 184:21
  190:25 191:2
  191:20 192:6
  200:11 203:9
  204:1 205:20
  206:22 218:11
  225:8,13
calculator
  157:15 170:6

calendar
  236:13
calibrate 32:10
  81:11
calibrated 82:2
  82:8 109:7
calibration
  81:15,15,21,22
  82:5
calibrations
  81:23
call 7:3 15:12
  19:5 26:16
  51:24 54:9
  75:10 79:10,11
  94:10 98:24
  103:4 123:20
  136:21 147:19
  175:14
called 32:18
  123:22 155:22
  163:12 176:17
  183:9
calls 47:10,14
camber 228:21
campbell
  133:24
campbell's
  152:6
cannella 2:4,6
  4:12,12,16,16
  8:1 29:1 48:2
  49:7 99:23
  105:9 134:16
  141:10 167:5

167:13,22
168:5 174:12
174:16 177:18
178:1,3 197:14
200:6 203:16
203:20 233:6
237:1
cannella's
  47:24 48:13
  49:15
cannellasnyd...
  237:1
capable 162:21
capacity 80:23
capital 206:21
  206:21
caption 235:8
captured 55:1
car 24:4 26:17
  33:6 34:18,23
  36:15,19,20,21
  36:23,25 37:2
  45:7,7 61:25
  65:24 82:23,25
  83:5 85:4
  87:14 102:24
  102:25 103:1,2
  103:3,7 118:13
  150:16 168:17
  202:5 209:18
  215:21 216:11
  216:12 217:1,1
  217:21 222:3
car's 217:23

G. Bryant Buchner , P.E.   January 23, 2024
Bryson, Santana and Joshua v. Rough Country, LLC

[card - child]   Page 11

card 87:20
careful 158:24
carefully
  112:22
cargo 82:18,22
  83:5,5,17 89:1
  133:3,12
  134:12,22
  135:13,17
  144:22 145:2
  145:10,25
  185:16
carlo 151:18,24
carry 80:9 81:5
cars 24:5 39:17
  39:18 40:6
  78:3 196:2,20
  199:12 215:17
case 1:7 6:4,11
  6:22 7:1,3 11:5
  11:13 13:5
  17:7,15,20,24
  18:5 19:22
  20:4 22:2
  25:11 26:7,9
  30:21 33:2
  39:12 40:3,5
  40:16 44:11,18
  50:12,15 51:1
  51:10,15 53:1
  54:16,22 55:14
  55:21 59:20
  65:15 68:10,14
  69:2 81:4
  85:14 91:6,6

96:6 107:2
113:6 134:23
136:10 151:24
159:3 161:18
163:19 165:10
165:11 166:6
167:2,12,14,18
168:2,4 169:13
170:9 172:21
181:11 182:12
184:25 185:8
185:11 189:12
189:18,25
190:8 195:19
198:9,24 234:8
234:8,18
235:18 236:5,7
236:12
cases 43:14,15
  43:19 44:2,4
  45:12,16 46:12
  46:15,18,23
  47:3,11,23
  48:14 163:20
  172:19
catch 4:15
categorize
  39:22
cause 45:23
  232:10
caved 26:21
ccr 1:23 235:24
cdr 56:21,25
  57:3

center 103:25
  181:2,5 184:22
  215:10,15
certain 65:4
  162:1 215:22
certainly 84:11
  84:23 150:15
certainty 28:15
certificate
  236:1
certificates
  236:9
certified 234:9
  234:21 236:4,5
  236:6,8
certify 235:6,16
  238:2
cg 181:18 185:7
  185:9
cg's 16:17
chainsaw
  183:24 184:1
challenge 166:1
challenged
  165:11
chance 88:12
  126:2,4
change 16:18
  17:12 30:21
  42:25 84:2
  97:8 98:22
  101:8 115:10
  118:20 125:14
  155:9 158:19
  175:6 180:20

182:11 185:11
185:24 197:18
211:5 238:19
239:1
changed 31:3
  45:25 67:19
  73:25 74:10
  144:12,13
  154:15 169:16
  217:1
changes 159:10
  234:21 237:7
  238:5,6,9
changing
  154:17
channel 109:16
charge 57:17
  60:5
charged 50:12
charges 60:8
charging 50:14
  52:2
check 16:1,17
  21:18 61:18
  76:11 81:13,15
  151:18 191:24
  227:1
checked 109:11
checking 81:22
  223:10
checks 82:5
chief 52:15
  55:3
child 140:11
  146:1 194:23

G. Bryant Buchner , P.E.   January 23, 2024
Bryson, Santana and Joshua v. Rough Country, LLC

[child's - come]   Page 12

child's 84:19 84:24 85:3,8 102:21 147:14
choice 35:23 39:20
choose 39:21 99:6 132:5,8 172:13,14 218:15
chose 151:20 163:6 184:5
chronologica... 51:9
circumstances 14:7 39:6
cite 41:9 167:10
civil 238:9
claiming 144:13
clarify 54:12 90:18 103:9 191:25 195:5 226:9
clarifying 173:24 195:16 233:4
class 130:22
classes 42:21
classical 157:15
cleaner 82:19 84:4
clear 77:9,15 77:19 93:12 100:14,15 102:20 116:12

178:9 180:23 186:25
clearance 86:12,13 87:4
cleared 180:24
clearinghouses 189:5
clearly 28:5 29:19 58:24 135:22
client 51:19,19 52:4 54:9,17
clip 24:14
close 29:7 98:15 138:7 175:15 181:7 229:8
closer 105:12 182:21 226:7 226:13
closest 149:19 149:22
code 92:9,12 93:17 107:22 198:7,8,14 234:13
coefficient 17:25 22:15 23:8,11 24:24 25:4 26:10 110:17,20 112:1 114:8 115:3,8,11 119:16 120:9 130:5 155:10

158:16 159:11 169:17 174:2,5 176:3,4,8,24 177:3,9,14,21 177:22 178:13 178:13,19 179:23 180:3,8 180:19 187:4,5 187:7 188:14 189:25 190:14 190:21 191:1,4 191:10,21 192:14,20 193:1 203:11 203:13,23 204:2,3,11,22 206:25 207:8 207:11 210:5 230:4 232:8
coefficients 22:23 132:9 133:19,20 155:19 156:10 177:10 178:17 179:1,18 180:20 187:10 188:18 204:5 206:9,18 208:2 208:19 209:12 209:22,25 229:24 231:16
cohen 183:16
collapse 162:25
collapsing 162:5

collected 166:2
collecting 71:21
collision 23:12 23:16,20 29:20 30:17 36:8,12 90:22 91:3 94:14,14 108:12 123:8 150:5 160:24 161:21,22 190:6 192:17 192:18 195:9 195:20 204:12
collisions 78:4 150:18 170:1 195:2 196:12
colloquies 234:20 235:10 236:4
color 194:10,11
column 229:22
combination 228:14
combine 178:22
combined 24:24 25:4 176:7
combo 103:24
come 15:8 41:14 45:6 54:25 78:18 79:1 90:1 93:7 99:14 119:6

G. Bryant Buchner , P.E.   January 23, 2024
Bryson, Santana and Joshua v. Rough Country, LLC

[come - considerations]   Page 13

122:2 173:6
175:3 179:14
183:25 207:17
225:25 226:22
comes 22:9
47:7,8 166:17
218:5 230:3
comfortable
28:6 35:16
148:25 189:2
211:23 212:9
213:4
coming 122:5
220:2 231:14
comment 140:5
commenting
86:3 219:2
comments
85:25
commercial
195:24
commission
239:25
committed
104:10
common 80:16
communicati...
10:25 11:3
51:18 54:17
company's
51:15
comparable
220:23
compare 97:19
140:22 143:9

198:20
compared
100:11,12,14
102:18 138:1
150:17
comparing
97:15 105:22
106:8 142:21
216:2 230:19
comparison
33:4 95:25
102:22 105:6
105:16 141:8
comparisons
106:13
compensation
234:14
competing
227:3
complaint 35:4
complete 145:6
234:10,20
236:4,6
completed
237:17
completely
78:18 217:21
complex 40:11
40:24 41:1,3,7
42:4 143:15
145:5 167:18
167:24 168:9
169:5
compliance
234:3,13

complicated
157:10,11
component
9:18 177:13
components
42:10 58:25
141:5 162:6,24
163:3
compound 48:3
computer 7:8
34:25 37:1
159:23 210:18
computers
89:24
concern 92:17
concerned
27:13 163:23
229:2
conclude 121:6
162:15
concluded
106:6 233:12
concludes
233:9
concluding
120:21,24
conclusion
140:9
conclusions
119:6 137:23
condition 120:5
140:19 145:19
146:5 160:8
conditions 31:3
124:23

conference
14:6 52:3 54:5
54:8
confidence
155:11
configuration
96:2 117:22
126:2,18
148:17 153:20
161:6 229:11
confining
132:15
confirm 51:10
76:6 99:15
confirmation
102:12
confirmed
69:15
confused 18:21
98:8,10 152:3
confusing
177:17
confusion
58:18
connected
116:19
conservative
231:7
consider
160:24 187:9
188:5
consideration
35:1
considerations
159:8

Veritext Legal Solutions

800.808.4958   770.343.9696

G. Bryant Buchner , P.E.   January 23, 2024
Bryson, Santana and Joshua v. Rough Country, LLC

[considered - crash]   Page 14

considered
  186:25
consistency
  188:23
consistent
  26:11 28:25
constant
  232:17
consulting
  43:18
contact 9:22
  16:23 39:7
  42:23 122:8,9
  157:4 158:5
  220:7
contacted
  234:16
contacts 56:12
contain 7:21
  8:3 231:25
contained
  104:24 179:19
  180:4
contemplated
  28:6
context 94:3
  203:14
contract
  234:14
contracts 234:8
contributed
  22:20 44:24
control 24:20
  47:10

controlling
  159:2
controls 9:10
convenient
  21:11 56:15
convention
  91:16
conversation
  38:8 94:12
  129:14
convert 109:4
coordinators
  236:3,8
copies 7:6,16
  71:2 73:1
  236:8 237:13
copy 6:8,9,12
  12:25 73:4,4
  73:17,20 236:6
corner 43:5
corporation
  13:17
correct 19:3
  22:25 30:23
  33:1 43:16
  52:16 54:2
  55:21,22 56:25
  61:8,9 68:10
  69:3 73:14
  75:13 86:4
  105:25 110:5
  112:19 114:6
  115:5 119:8
  120:12 127:22
  132:22 153:9

  153:15 158:17
  159:12 164:24
  164:25,25
  166:8 180:22
  193:22 213:10
  219:25 234:20
  235:14 236:4,6
correction
  223:24
corrections
  237:7 238:14
correctly 37:25
  93:6
correlate
  203:12 204:4,7
  205:2
correlates
  205:15
correlation
  232:24
corresponds
  215:1,13
coughed 62:6
counsel 2:1 4:9
  5:14,17 6:5
  10:25 11:20
  99:22 234:2
  235:17,19
country 1:9 3:8
  57:19,23 59:1
couple 5:7
  68:19 85:25
  93:13 108:5
  173:24 217:4

course 15:18
  158:9 183:16
  192:8 223:3
  227:1 231:23
  232:21
courses 152:7,7
court 1:1 4:15
  4:20,22 49:25
  73:14 99:18
  141:14,15
  164:24 201:22
  208:16 234:5,9
  234:21 236:5
  237:15,18
cover 78:8,8
  89:1,6,10,13,15
  89:18,18 92:25
  180:9 190:4
covered 200:5
  201:1
covers 193:24
  194:1
crash 9:18 24:4
  24:4,18 25:24
  26:7,15 28:5
  28:22,25,25
  30:19 31:2,3,6
  31:8,10,19
  32:25 33:12,13
  35:21 36:24
  37:24 38:3
  39:2 41:16
  62:25 78:12
  82:12,21 83:7
  83:19,24 84:2

G. Bryant Buchner , P.E.   January 23, 2024
Bryson, Santana and Joshua v. Rough Country, LLC

[crash - d]   Page 15

105:6,16 107:4
115:17,21
117:4 121:4
122:7 131:14
135:23 136:2,3
136:14,22
137:17 143:5,8
162:2,25
163:24 164:6
164:10 167:21
167:24 168:15
168:17,25
169:5,7,18
171:6,10,20
172:4,7,13,16
172:20,23,25
173:1,2,4
176:11,14
180:13,17
181:8,10
188:16,20
189:11,16,21
189:24 202:25
204:19 205:5,8
207:21 230:16
230:19 231:7
crashed 146:6
crashes 20:11
  20:13 37:2
  39:22 133:16
crashing 35:2
crazy 29:8
create 28:23
  115:9,12,14

created 214:16
creates 34:11
  37:23
creating 125:3
  125:4
crescent 32:4,4
  32:13 35:7,8
critical 28:20
  187:2 194:16
crossed 5:24
  177:20
crowbar 63:7
crumpled
  194:13
crush 3:24
  39:18 40:11,17
  40:21,24,24
  41:11,22 42:4
  42:8 44:25
  45:7 85:19
  94:24,25 106:4
  106:6,22
  114:25,25
  115:4 116:10
  116:14,23
  117:10,14,21
  118:3,4,5,12,21
  118:22 119:2
  125:12 126:24
  126:25 127:1
  128:13,16
  129:7,10,14,21
  129:22 130:4,9
  130:10,11,14
  130:18 131:7

131:12,17,20
132:6,6,10,13
132:20 133:1,4
133:19,22,23
134:12 141:3
141:21 142:5
143:17 146:14
146:22,25
147:2,16,18,24
147:24 148:1
148:18,20
150:4 152:9,24
153:4,7 155:18
156:10 161:11
163:5,7,8,9,20
163:23,23
164:2,4,5,7,17
164:19,21,23
165:3 166:4,5
167:4,12,19
170:1,19,20
172:20 177:9
177:14,22
178:12,17
186:22 190:11
190:13,25
191:11,19
198:17 203:9
204:25 206:7
206:18 207:12
207:12,14
209:23 210:8
211:1 213:1
214:1,13,18
215:17,22

219:5,7,10,11
219:22 220:8
220:12,16,21
222:14 229:23
230:11 231:10
231:13,18,21
232:10,18
233:1
crushed 127:2
  129:6 135:24
  146:6 218:3
  221:17
crushing
  219:17
cs 237:19
curb 127:25
  128:1 185:14
curious 68:4
  77:15 105:20
current 12:21
  12:25 13:2
  50:9 74:2,4
  231:12
currently 48:25
  49:10,20 50:13
curriculum
  3:13
cursor 86:8
cut 141:11
cv 1:8 12:19,22
  13:1,3,9,14

d

d 3:1 33:7
  221:25

G. Bryant Buchner , P.E.   January 23, 2024
Bryson, Santana and Joshua v. Rough Country, LLC

[damage - depiction]   Page 16

damage 9:2 27:4,10 78:3,8 78:12,25 94:24 94:25 117:18 117:19,20 118:21 133:17 143:4 144:1,10 144:16 146:11 156:11 207:10 208:4 213:7 217:21	219:24 221:1 225:14 229:16	**december** 51:13 52:1,5 53:22 55:10	**deflection** 142:13,15

damage 9:2
27:4,10 78:3,8
78:12,25 94:24
94:25 117:18
117:19,20
118:21 133:17
143:4 144:1,10
144:16 146:11
156:11 207:10
208:4 213:7
217:21
damaged 27:6
79:14 86:18
140:19 142:5
217:23 222:24
222:25 223:5
danger 34:3
data 6:18 8:5
9:2,7,7,10
19:24 20:18
23:6 31:20
33:18,24 60:12
93:23 106:24
107:4 108:5
127:15 131:16
152:19,20
154:1 155:2,6
162:16 169:17
174:23 176:18
180:17 188:16
190:3 191:13
191:18 192:17
192:18 199:2
199:18 205:24
212:7 219:22

219:24 221:1
225:14 229:16
database
179:18,19
180:4 209:17
210:6
date 62:4,7
67:17 71:9,19
72:5,6,18 77:9
89:21 107:1
166:11 207:24
235:2 237:3
dated 12:21
daubert 165:12
day 14:9 15:13
26:3 41:2,6
55:24 56:21
65:1,7 69:20
71:23,24 72:2
72:3,6,11,13
80:8 82:10
171:22 230:6
231:3 235:21
239:21
days 237:3
de 2:7 211:12
dead 215:15
deal 46:2
dealing 116:20
debate 38:21
debating 38:25
decatur 2:9
deceased 1:6
deceleration
92:5,6

december
51:13 52:1,5
53:22 55:10
decimal 226:16
decision 40:7
decisions 31:23
31:24
deep 75:5
default 22:15
25:10 115:8
175:14,16,18
180:11,19
190:18 193:9
defaults 22:9
defeated 26:22
36:18
defend 150:12
150:19
defendant 1:10
2:11 3:8 4:19
defending
136:7
defense 46:16
46:18,24 47:17
deference
29:24
define 93:13
94:11 167:21
196:9
definitely 72:9
93:3 186:15,16
232:22
definition
93:19

deflection
142:13,15
deformation
132:21 135:12
135:17 140:8
deformed 79:6
142:22,23
223:4
degree 211:10
delta 17:9 22:6
22:17 25:6,8
25:15 90:12,16
90:16,18,20,22
91:7,7,9 108:8
108:12 110:22
110:24 111:14
111:18 115:2
118:2 152:14
152:15 155:24
174:21
demand 97:6
dent 218:1
dependent
35:25 36:2
170:12
depending
21:20 67:1
94:3 123:20
162:9 175:6
232:13
depends 172:8
196:19
depiction
117:18

G. Bryant Buchner , P.E.   January 23, 2024
Bryson, Santana and Joshua v. Rough Country, LLC

[deploy - difficult]   Page 17

deploy 92:1,15
107:14,18
deployed 74:6
deployment
91:22 92:4
107:13
depo's 68:18
deponent 149:3
235:8,15 237:2
237:6,6,7,9,15
deposition 1:13
3:11 4:7 5:12
5:15,18 10:16
10:20 12:14
43:10,16,20,24
44:2,19 46:12
50:3,18,19,22
73:15 74:12
75:14 117:6
139:6,18 149:3
225:13 233:10
233:12 235:2,2
235:13 236:11
238:11,12
depositions
183:6
depth 207:14
derive 152:20
204:21 208:21
derived 156:11
204:15 205:20
describe 16:9
34:14 75:2
79:7 94:23
152:2

described
30:17 39:5
45:18 96:20
describing
37:19
description
95:2
design 34:24
designed 35:4
131:14 158:25
159:4 161:9,11
168:21 169:22
designing
133:15
desire 238:10
detail 18:3
37:16 60:21
determination
230:4
determine 25:3
41:10 53:4,8
58:17 94:24
105:21 130:4
130:18 133:4
139:1 141:24
147:23 148:1
156:23 160:7
164:7 182:23
188:17 211:10
216:9
determined
57:25 100:8
105:24 140:13
181:18 216:23
230:8 234:14

determining
20:15 40:16
115:4
develop 158:10
171:5
developing
133:25
development
28:4
deviation
211:13,15
device 56:10
devin 2:5 4:12
4:17
diagram 61:15
61:16 212:17
diagrams 59:1
dial 2:14
diameter 99:6
99:9
difference
27:23 59:5
76:12,13 90:15
91:1,6 96:3,16
97:21 100:8
118:2 120:8
128:17 158:5
178:12 186:2
202:15 213:18
220:25 222:22
224:17,25
225:23 227:19
227:20,23
228:1,5

differences
87:6 202:3
204:10
different 14:20
16:14 18:9
19:18 20:8
21:6 24:6,7
32:1 37:4 46:7
73:9 89:20
93:7 94:4,6,8
96:5,10,23
97:11,12,13
101:5 114:10
114:15,17
119:19 131:4
134:3 138:3
151:20,21,25
152:22 163:15
171:14,21
172:24 173:7
175:9 177:23
182:14 186:7
192:8 202:6
205:3 206:3
209:24 212:2,7
212:14,23
217:21
differentiate
67:3,5
differentiates
27:15
differently
175:8
difficult 199:25

G. Bryant Buchner , P.E.   January 23, 2024
Bryson, Santana and Joshua v. Rough Country, LLC

[dig - e]   Page 18

dig 75:5

digital 6:3,22
  7:22 72:21
  74:23

digitally 6:25

direct 234:14

direction 200:2
  211:13 235:12

directly 55:5

disagree 30:2
  93:20 145:7
  197:20

disagreeing
  196:4

disclosure
  234:5 236:1

disclosures
  234:1,2,3,15

discount
  234:19 236:13

discounts
  156:17 234:18
  236:12

discuss 218:16

discussed 95:3
  194:21

discussing
  203:14 221:4

discussion
  108:14 109:24

dislodge 79:4

displacement
  129:7

disqualificati...
  234:6

disqualify
  234:12

distance 140:3
  220:11

distinction 34:8
  37:17

distort 162:19

distorted 168:7

distribution
  127:20 128:4
  181:23 184:20

district 1:1,1

division 1:2

doctor's 134:8

document 6:17
  6:18,21 66:10
  75:2 84:15
  130:1 213:6,8

documentation
  58:11 59:22
  62:21 63:4

documented
  69:23 76:18
  84:16 106:20

documents
  3:21 77:15
  230:10

doing 7:9 8:11
  16:6 17:20
  21:13 28:17
  32:19 34:6
  54:23 61:14
  101:1 102:2
  112:16 128:16
  133:2,15

143:12 148:8
  155:25 158:3,8
  159:15,21
  160:2 162:21
  194:3 201:20
  207:9 210:8,15
  212:5 228:11
  230:18

door 29:7 97:4

download
  25:21 56:21,25
  57:3 92:8,10
  93:22 154:25
  155:1,3 193:3
  193:16,18

draw 61:16
  147:3

drawing 60:8,9
  60:9 61:6,10
  101:25 105:1
  129:2

drawings 60:18
  69:16,16
  101:17 104:17
  104:25 121:12
  129:1 200:10

drawn 221:13

drive 35:6 65:7

driver 9:9
  104:9 194:23

driver's 183:4
  194:19

drives 78:6

driving 35:8

dropped 78:16

drove 80:10

duces 3:11

due 237:3

duly 5:2 235:9

dumb 208:12

dumbest
  101:20

dutifully 36:5

dymesh 42:15
  42:19 156:4
  157:1,16
  158:11 161:20
  161:20 162:4
  162:19 163:1

dynam 106:5

dynamic 105:7
  105:18,21
  106:6,22 147:2
  147:6,9,23
  163:17

dynamically
  143:8 144:18
  147:10

dynamics
  13:17 120:3
  130:25 158:7
  160:18 161:21
  164:10 165:14
  169:25 210:22
  210:23

e

e 3:1,5 56:9
  65:18 235:1,1
  237:18 238:8,9

G. Bryant Buchner , P.E.   January 23, 2024
Bryson, Santana and Joshua v. Rough Country, LLC

[earlier - errata]   Page 19

earlier 33:16
34:15 87:13
101:11 107:21
114:12 119:23
123:5 144:5
156:9 157:10
181:17 224:13
226:16 230:13
231:4
early 57:22
225:17
easier 51:6
73:19 126:16
easiest 148:6
eastern 4:6
easy 74:17
126:21 154:13
191:15
eating 15:17
economies
97:10
edc 13:19
edcrash 15:12
edr 23:5 90:11
edsmac 15:12
120:3 152:11
education 13:8
effect 135:17
181:7 185:2,5
228:15,15
effective 32:11
112:23 218:19
220:25 225:6
effectively 23:7
108:13 134:24

137:23 162:11
211:18 219:15
224:11 226:7
229:7 231:21
efficient 22:8
eight 64:19
65:1
either 87:8
88:11 143:8
145:14 160:7
162:21 182:15
183:4 211:11
211:13,15
212:12,12
elasticity
178:21
electronic 5:20
5:23 6:1,3,9,12
8:14 19:24
92:13
electronically
3:6 237:8
element 126:17
163:13
elephant 15:17
elevation 101:8
122:10 126:12
132:6 161:12
214:25 215:3
215:14
elevations
131:15
elliott 198:23
elliott's 183:13

elongated 79:6
emblem 145:24
employed
171:5
employee
235:17,19
endeavor 34:2
ended 93:25
169:9
ends 93:23
213:23 214:14
220:13
energy 33:8
207:11,15,16
enforcement
107:1
engaged 121:18
124:14
engagement
103:20 105:23
105:24 123:9
engine 120:3
engineer 15:7
16:6 38:16
52:14,15,20,23
54:7 55:3
65:15 120:21
121:24 127:18
engineering
11:11 13:17
16:22 23:1
53:24 54:6,20
55:11 66:18
73:8 130:3,24
158:7 160:18

161:20 163:17
165:14 169:25
177:3,12 187:6
188:15 190:1
207:20 210:22
210:23 225:18
227:6
engineers
14:21 52:11,25
65:14 115:22
208:24
enter 8:10,16
8:19 171:25
186:4
entered 238:11
entire 158:16
180:9
entitled 74:24
77:21 90:10
116:10
entries 53:23
66:20
entry 54:10
174:10,12
environment
9:10 30:9
190:5,7
equations
22:11 111:23
113:21
errata 237:3,7
237:8,9,11,13
237:14,17
238:1,16

[error - exhibit]

error 92:9,13	217:13,18	**euler** 21:8	106:10 142:12
107:22 211:10	222:13,15,21	**evaluate** 173:2	147:15 157:20
212:12	222:24,25	**event** 9:7 93:14	159:4 168:10
escape 26:23	223:1,6,8	93:21,22,23,25	206:13,24
27:4 62:18	229:24 230:5	107:17,20	**examination**
77:2,6,23,23	231:19,22	136:13,15,17	3:2 5:4 213:19
78:13 79:23	232:11	136:19 137:1,4	**examined** 5:2
80:8 82:11,12	**escape's** 80:3	137:6,12	**example** 54:4
87:24,24 92:3	151:12	**events** 108:1	**examples** 35:5
111:7,12,14,19	**escapes** 131:1	197:21	**except** 234:8
118:13 120:16	**especially**	**eventually**	**exclude** 57:8
121:14 122:13	45:20	204:17	**excluded**
123:15,18	**esq** 237:1	**everybody**	164:24
125:2 127:1,21	**esquire** 2:4,5	128:20 133:25	**exclusively**
128:9 129:4	2:12	188:24	236:8
130:19 131:6	**essay** 130:21	**everybody's**	**excuse** 62:6
131:18 140:7	**essence** 98:6	146:6	157:6 165:8
140:23,25	**essentially**	**evidence** 19:8	**exemplar** 58:22
141:6 145:19	22:18 191:16	19:13,19 21:17	59:19 61:25
145:23 146:2	204:17,18	29:2,16 31:14	62:1,5,17,17
146:17,24	**establish**	33:25 124:15	77:2,3,5,13
147:3,25	147:17 167:17	165:4,10	79:18,23 94:23
149:12 150:24	211:14	194:18 235:15	95:6 97:16
151:5 152:17	**establishing**	**exact** 6:17 47:1	100:9,11,13,18
156:20 171:7	211:24 231:3	58:6 65:5	101:24 102:5
175:2,4 177:7	**estate** 1:5	81:21 96:8	110:4 121:1
180:4 181:22	**estimate** 46:23	104:9 109:13	142:3 171:6
183:13 184:7	64:23 65:2	175:7 185:7	202:2,5,18,19
184:21 187:8	116:14 120:8	186:19 192:1	203:6 222:4,25
187:17 188:11	139:1 184:3	196:13 204:8	225:1,24
193:25 206:19	191:3	223:1	227:11,15,25
207:3 208:19	**estimating**	**exactly** 17:5	**exemplars**
209:17,25	82:20	24:18 56:6,21	57:24
210:13 216:4	**ethics** 234:13	64:18 65:3	**exhibit** 3:7,8,13
216:23 217:11		89:11 105:20	3:14,17,18,19

G. Bryant Buchner , P.E.   January 23, 2024
Bryson, Santana and Joshua v. Rough Country, LLC

[exhibit - far]   Page 21

3:21,23 10:16
10:19,22 11:5
12:14,19 43:7
43:10 50:1,3,6
50:21,22 51:2
73:13,15 75:12
75:14 117:6
201:17,20
exhibits 3:6
234:21,22,23
236:6,7
exists 53:9
exit 155:5
174:10,12,20
176:16
expect 36:25
37:1,24 39:8
70:2 115:20
150:5,9 166:23
175:12 196:16
expected 17:5
36:24 115:10
115:12 193:13
193:14
experience 13:7
46:10 121:4
150:6,10
230:17
experienced
40:17 220:8
experimenting
16:3
expert 13:5
43:19 85:12

expertise 84:25
85:10 176:1
194:24
expires 239:25
explain 57:18
107:12 127:8
130:2 156:5,6
173:4 207:4
explained
148:13
explanation
24:22 87:2
92:14 148:6
154:9 156:7
228:6,9,10
exploded 26:16
217:2,22
explore 18:8
164:17
exploring
164:5
express 129:21
expressed
129:25 130:17
207:7
expressing
132:12
extends 131:20
extent 141:25
147:17 148:1
extra 182:18
extreme 124:2
196:6,9,12

f

f 56:9 232:4
235:1
f2 100:9
f250 27:17
37:19,21 40:19
40:21 74:6
85:25 86:1
88:22 89:2
90:11 92:1
95:6 96:1,1,18
99:15 100:9,10
100:11,13,25
108:19 116:15
116:24 117:4
117:23 118:24
119:1 122:12
125:1,1 128:10
130:15,16
137:23 138:2
140:5 141:5
145:25 147:23
148:2 150:24
151:11 153:20
154:1 155:3
161:5 171:6
177:4,8 179:19
179:23 183:23
187:6 188:7,14
190:2 202:7,16
202:23 206:18
207:2,5,6,18
209:23 224:19
227:16 231:15
231:18,19

232:1,8
fabric 194:1
faced 165:25
facility 237:17
fact 38:17
76:23 78:7
184:19 227:25
factor 121:11
122:20 126:23
133:3 135:15
187:2 206:13
factoring 145:1
factors 28:10
121:6
factory 138:2
facts 29:2 45:4
fair 22:1 25:7
39:9 46:2
50:15 51:14
53:20 55:9
70:4 95:2
115:13 116:16
116:25 133:6
139:20 195:3
196:24 220:9
232:12
fairly 36:8
160:24
falls 36:23
far 14:24 35:21
62:8 131:24
135:25 136:11
137:25 140:6
140:10 142:5
142:17,24

G. Bryant Buchner , P.E.   January 23, 2024
Bryson, Santana and Joshua v. Rough Country, LLC

[far - fooled]   Page 22

143:13,13
159:7 169:19
170:18 196:2
214:4,18 219:9
222:20 229:4
farther 103:1,6
fascia 121:16
fashion 46:2
161:23
fast 10:21
11:22 63:10
108:24 109:3
faster 76:1
fault 92:12
february 55:25
56:23 58:13
61:4 76:18,22
80:4 82:3
84:10 235:21
federal 238:8
fee 3:17 50:5,9
50:18
feel 27:22 28:6
30:18,24
166:12 211:23
fees 50:10,11
50:13
feet 97:2 98:11
101:7,7 118:1
129:20 148:10
148:19 170:19
170:19,19
186:22 202:10
202:11 203:4
211:1,2 215:4

219:3 224:10
224:20,22
225:1,9,10,24
226:3,5,18,19
227:12
field 28:21
80:10
figure 10:9
90:7 102:19
103:19 108:7
figured 206:12
file 5:13 6:4,23
7:1,2,3,4,21 8:3
9:5 11:13 13:3
51:12 62:21
63:7 66:18
72:22 73:1
101:4 110:13
113:2,6 128:15
128:22 149:8
199:13 200:15
237:12
filed 237:14
files 9:8 74:24
filing 8:14
71:25
fill 20:12 21:12
237:7,8
fillers 133:18
final 109:8
154:8 185:5
192:25 205:21
financial 234:6
236:13

financially
235:20
find 6:12 7:12
8:13 37:14
59:5,12 81:16
101:4 117:9
148:23 179:20
183:2 192:13
225:19 231:2,9
232:2
fine 12:9 69:24
72:9 87:9
91:16 113:18
137:8 182:4
finish 47:18
63:18 67:23
238:16
finished 171:2
223:11
finite 163:13
firm 47:24,25
48:14,14 81:24
234:1,15 236:1
first 5:2 16:22
26:6,14 27:25
28:22 29:5
34:16,17 41:19
51:8,15 57:11
64:10,14 66:6
69:7,10 86:1
100:17 115:9
133:12 137:22
154:2 160:9
168:7 172:15
218:11

fit 32:14 140:15
140:18,20
142:8
fitting 142:20
five 65:4
113:13 199:21
201:3
fix 11:21
103:16
fl 4:1
flashing 122:25
flat 17:16 190:8
218:3 221:12
flattened
145:11
flipped 222:6
flipping 192:4
floating 88:11
floats 94:9
florida 1:15
fluke 174:25
flush 123:6
focused 44:18
44:20 197:8
follow 15:10
27:1 195:10
201:13
followed
126:23 210:20
following 26:24
118:7 234:1,3
238:6
follows 5:2
fooled 59:8,9
59:10

G. Bryant Buchner , P.E.   January 23, 2024
Bryson, Santana and Joshua v. Rough Country, LLC

[foolish - generating]   Page 23

foolish 93:8
foot 85:1,2,4,17
  104:8,8 105:7
  105:18,21
  169:21
force 207:9,15
forces 122:6
  123:6 150:13
  156:16,20,22
  156:23
ford 62:17 77:2
  77:6 79:23
  80:12 96:1,1
  118:24 119:1
  122:12 145:24
  147:12 171:7
  175:2,4 183:13
  189:11,17,22
  189:24 207:3
foregoing
  235:6 236:3
forget 101:9
forgot 88:18
  104:3
forgotten 114:1
form 27:10
  29:1 46:2 48:2
  134:17 161:4
  161:23 167:13
  168:5 200:6
  203:16 238:10
  238:14
formal 51:21
formally 75:7

format 5:21,21
  5:22,23 7:22
former 47:25
forms 234:5
formula 106:8
formulas 152:6
  210:17
formulating
  198:9
forth 76:15
  121:2
forums 14:20
  14:21
forward 10:21
  61:24 103:1,6
  129:6 135:21
  140:11 142:5
  146:10,23
  150:4,8 184:23
  185:10 223:7
  237:12
found 139:13
  217:12 232:3
foundation
  69:23 110:16
foundational
  60:22
four 37:4 48:8
  48:11
fourth 226:2
frame 33:8
  36:3,3 78:23
  78:24 79:10,11
  137:25 138:4
  138:20 140:2,3

157:17 162:13
fraught 34:2,2
fricke 41:17
friction 190:15
fries 56:8 58:13
  58:15 61:3
front 11:8 58:2
  73:18 74:15
  83:11 84:4
  85:2,5,17
  127:21 128:2
  130:15,16
  131:11 140:21
  143:18 146:9
  156:14,18,21
  158:16 181:23
  182:8,16,17,19
  182:21,22,24
  184:12,20
  187:5 193:25
  194:23 207:2,6
  207:25 214:5
  228:12,16,22
  229:2,10,19
frontal 179:24
  179:25
frontals 187:18
  187:22
full 141:25
  144:25 148:1
fully 58:2
  104:24 107:19
  145:8 195:10
fundamental
  169:24 212:7

fundamentally
  152:19 161:9
further 105:4
  170:24 235:16
  236:5

g

g 1:13 3:12,14
  5:1 235:2
  237:2 239:19
g's 150:23
  151:6
gainsville 1:2
gate 217:5
gears 67:24
general 16:13
  46:10 197:19
generalization
  198:3
generally 15:23
  15:25 130:16
  188:25
generate 26:10
  72:14 213:8
generated 7:16
  8:5,7 71:2
  180:8 208:20
  209:16 210:9
  213:9,17
  221:18,24
  230:1
generates 7:17
  190:19
generating
  176:7

G. Bryant Buchner , P.E.   January 23, 2024
Bryson, Santana and Joshua v. Rough Country, LLC

[generic - good]   Page 24

generic 90:18
  109:15 185:13
generically
  90:19
geometric
  85:18 141:2
geometry 9:8
  62:14 142:3
  155:15 156:25
  157:3 215:16
  215:21
george 4:8
georgia 1:1 2:9
  2:17 198:7
  234:3,9 235:4
  236:3,8 237:18
getting 12:8
  44:1 53:14
  64:22 68:23
  81:24 84:17
  97:23 109:13
  121:21 142:12
  143:25 147:16
  165:25 167:9
  173:12 177:20
  218:23
giant 122:25
give 8:17 10:9
  21:18 29:23
  32:20 41:13
  46:10 47:25
  59:19 73:3
  77:8 85:15,22
  105:3 106:1
  140:2 164:20

169:21 174:20
187:22 188:21
189:17 192:1
194:22 197:25
198:3,5,21,23
200:4 214:19
215:21 217:19
218:24 232:6
given 35:5
  37:10 43:15
  82:9 86:22
  132:23 229:16
  235:15 238:12
gives 130:22
  151:25 155:11
  157:13 207:24
  213:11 214:21
  218:12,17
giving 13:9
  63:20 156:2
  157:23
glad 93:5
  208:13
glean 21:3
glitches 12:10
go 9:19 11:21
  13:25 14:21
  15:9 16:1,19
  18:2 24:14
  30:13 35:6
  36:5 39:24
  41:20 54:21
  55:23 63:7,20
  67:23 75:25
  76:7,10 77:14

79:8 81:2
84:13 89:5,8
92:16,23 97:10
99:5,21 100:24
101:3 102:5
104:3 107:23
112:21,21
118:18 121:19
122:2 134:19
137:8 149:24
157:7 159:6
168:22 177:2,4
182:2 183:7
186:12 189:6
195:25 212:2
217:17 219:18
220:22 221:10
223:14 225:14
225:21 229:2
230:9 231:2
232:17
goes 35:7 43:12
  47:7 54:20
  78:9 170:3
  186:13
going 10:18
  12:5,9,18 15:6
  15:18 16:4,15
  27:18 29:6
  32:3,7,15,17
  35:2,10 38:22
  40:14 42:3
  52:14,15 54:23
  55:15 56:13
  57:15 60:11,23

61:18,19,23
62:13,14 75:24
85:12 87:23
92:6 93:7
100:16 102:1,3
102:3,5 103:4
109:1,2,3
120:23 122:6,8
122:8 124:24
125:2,18,22
126:6,6,7
131:18 132:12
133:3,23
144:22 148:24
149:1 150:20
156:19,21,23
156:25 162:16
163:11 166:11
166:16 168:10
170:23 185:6
185:10 186:1,3
187:3 190:18
192:7 207:25
211:5 214:19
216:6 218:10
218:24 219:18
219:18,19
220:8,11 221:5
223:12 225:10
227:17 229:17
231:8,10,12
good 5:8 21:23
  29:9 35:13,23
  41:20 54:3
  55:17 113:25

Veritext Legal Solutions

800.808.4958   770.343.9696

G. Bryant Buchner , P.E.   January 23, 2024
Bryson, Santana and Joshua v. Rough Country, LLC

[good - head]   Page 25

122:7 132:3
133:15 168:25
170:7 171:3
173:8 180:24
229:15,15
google 53:14
61:21
gotcha 25:20
79:5 95:24
98:3 99:1,12
107:11 115:23
123:11 124:16
193:7 206:2
216:5 218:22
223:9 230:14
gotten 59:1
189:21
government
188:19,21
207:21
grab 135:1
graph 213:6
graphical
214:22
gravity 181:3,5
184:22
gray 94:2
149:18
great 10:15
56:19 60:16
63:23,25 71:13
74:20 93:5
green 206:16
greetings 237:5

gross 96:4
ground 86:12
86:13,16 87:3
215:5 226:24
226:25
group 48:18
76:17 196:21
grouped 48:18
guess 9:12 16:3
30:7 37:16
43:8 48:8,11
53:6 56:21
64:4 80:15
98:14 103:22
106:12,25
108:18 112:14
130:4 138:22
139:15 164:15
168:12 185:13
192:25 197:9
202:4 222:13
guidance 22:13
156:2
gunn 2:14
guy 45:4
171:21
guys 39:17 61:7
106:18 177:20
182:1 192:25
193:12,24

---
h
---

h 2:12 3:5
165:13
half 13:15
55:16,17 86:2

87:2 98:13,17
98:21 105:7,18
105:21 224:7
224:10 225:11
227:15,25
228:4 229:10
hand 4:23 21:7
210:21
handle 29:17
29:18 34:13
36:12 37:2
47:15
handled 236:7
hands 162:3
handwriting
202:2
hang 78:16
hanging 36:22
78:17
happen 6:10
20:7 33:12
45:19 46:4
91:2 102:15
118:14 119:25
128:22 168:10
172:6
happened 18:5
18:19 31:7
38:3,6,20 45:5
48:19 56:17
68:22 96:6,25
115:21 118:16
127:17,18
137:16

happening
163:9,10
happens 17:2
happy 34:5
69:22 81:25
94:11,19
hard 7:16 21:5
21:7 44:8
63:14 71:2
73:20 87:17,18
hatch 26:21
83:11,11
119:24 121:14
121:22 122:15
127:2,6,10
129:3,5,8,20
131:6 133:17
143:17 144:2,2
144:10,11
146:8,11,19
147:17,22
148:11 216:3
219:23 220:8
220:12,17
hatches 147:19
head 36:17
44:8 49:1
67:15 70:3
81:6 84:20,21
84:24 85:8
103:4 104:6
145:25 179:8
180:2 196:4
224:4 232:24

Veritext Legal Solutions

800.808.4958   770.343.9696

[headrest - hooks]   Page 26

headrest 85:3
  85:16 102:17
  102:21 103:4,5
  147:13
hear 8:2 12:6
  30:12 49:5
  141:10,11,14
  156:7 167:6
  205:9 208:13
  220:4
heard 20:20
  90:17 177:24
  178:6 198:2
  220:3
hearing 144:8
height 30:22
  36:9 95:25
  99:2 100:8
  121:5 123:16
  131:23,24
  132:20 133:5
  157:24 197:11
  197:16,17
  202:12 215:7,9
  215:10 216:9
  216:14,22,25
  217:3,7,8,20,20
  218:2,6,15,19
  218:19 219:2
  224:18 225:23
  226:22,25
  227:10 228:7
heights 120:25
  121:8 200:12
  218:13,25

219:6
held 136:4
help 47:11
  60:21 65:9
  75:4 77:18
  124:13 152:14
  199:2,25 200:1
  203:10
helped 122:13
helpful 20:2,9
  85:7 112:6
helping 146:13
  150:18 181:1
helps 54:13
  167:21 207:11
hfe 35:24
high 33:15
  36:17 114:13
higher 125:9
  172:4 216:7
  217:4 219:23
  228:22 229:10
  232:25
highlighted
  106:16 128:18
  130:8 206:15
  208:6,8 209:8
  209:9
highly 232:21
hill 2:12 3:3
  4:11,11,14,18
  4:18 5:5,7 8:1
  8:4,18 10:17
  11:23 12:4,10
  12:15 30:6

43:11 48:4
49:24 50:4,21
50:23 70:9,12
70:18,19 73:11
73:16 75:11,15
99:18,20 100:4
105:11,14
113:12,17
114:5 115:24
116:7 117:7
134:18 141:16
141:17,19
167:7,8,16
168:1 170:10
173:11,15,22
173:23 174:14
174:17 177:19
178:8,11
197:22 199:20
199:23 200:19
200:25 201:10
201:11,24,25
203:18,22,25
208:17 223:14
223:21 224:1
224:16 233:3
hinges 146:18
  147:21,21,22
historical
  230:10
history 9:3
  50:12
hit 8:13 17:22
  17:23 19:14,16
  23:24 24:5

28:1 45:1,7
84:24 85:8,8
92:2 119:24
120:7,15
122:12 125:6
126:7,15 137:2
137:6 146:19
161:12,19
175:6,8,8
178:22 186:12
192:7,9 193:6
215:25 216:16
218:11
hits 17:1
  125:15
hitting 120:16
hmm 30:3
ho 41:5 168:16
hold 43:1 74:20
  82:22 83:5
  121:21 134:16
holding 47:1
  126:11
hole 186:12
holes 79:5,14
  146:17,20
honestly 38:15
hood 146:17
  147:23
hooks 121:13
  121:15 122:20
  123:4,13,16
  124:6,19
  125:19,21
  126:2,6,19

G. Bryant Buchner , P.E.   January 23, 2024
Bryson, Santana and Joshua v. Rough Country, LLC

[hooks - import]   Page 27

146:12 217:4
hope   54:13
  116:9 149:1
  209:4
hopefully   10:10
  10:21 75:25
  141:17 173:12
hoping   59:24
hour   56:2 76:4
  111:13,22
  115:2 168:18
  196:11,24
  207:25
hours   55:10
  64:4,19 65:1
house   61:20
hudgins   2:13
huge   216:11
hum   41:5
  168:16
humidity
  171:21,23
hundred   184:5
  196:11,24
hunter   183:12
hve   6:4 7:2,3,4
  7:21 8:3,6 10:4
  13:16,19,22
  14:9,15 15:20
  16:10 18:4,8
  18:10,15,18
  19:9,17 20:2,6
  20:9,12,13,17
  20:22 21:2,18
  26:1,6,14,25

27:5,12,15,16
27:19,25 28:15
28:22 29:6,9
29:15,25 30:1
30:10,18,25
31:5,16,23,24
33:11 34:11
35:12,24 37:8
37:23 38:2,5
38:13,17,19
39:1,4,5,19,22
39:24 40:6,14
41:10,21 42:4
42:11 66:24
67:6,8,12,14
70:25 98:20,22
99:2 104:12
114:7,24,24
115:3,12,16
116:21 128:5
153:15 155:4
155:12 163:19
163:22 164:15
164:20,23
165:3,10 166:4
167:12,23
168:19 173:25
174:3 176:2
177:14 179:3
179:19 181:22
181:25 185:8
190:4,7 191:9
191:22,23
192:5,11,14,15
202:22 203:15

204:16 208:20
209:12,15,24
210:3,10 213:7
213:8,24
214:19 215:12
218:5,24
219:22 220:20
221:19,20
230:1,3,7
232:4
hve's   15:11
  26:24
hves   33:19
hypothetical
  18:8 27:20
  28:24 31:3,8
  37:7 40:18
  41:11 116:15
  116:24 120:19
  121:9 125:11
  153:19 166:6
  167:19 172:6
  197:15 199:5

---

i

---

icing   125:22
idea   63:24
identified
  149:10 201:16
identify   4:9
identifying
  5:10
illustrates
  119:5
illustrating
  222:13

image   59:13
images   59:5,12
imagined   34:23
imaging   106:24
imbalance
  47:15
img   149:6
immovable
  23:23
impact   17:8
  30:23 34:9
  36:4 90:12,16
  90:20 91:7
  94:11 110:23
  110:24 111:6
  111:11 120:19
  123:6 134:12
  136:8 137:13
  155:5,21
  158:20 174:10
  184:23 231:17
impacted   84:19
  84:21 120:10
  123:17 135:13
  144:22 147:22
  194:19,23
  216:23
impacting
  144:25
impacts   16:20
  45:24
impartiality
  234:13
import   61:16

G. Bryant Buchner , P.E.   January 23, 2024
Bryson, Santana and Joshua v. Rough Country, LLC

[important - initial]   Page 28

important
  92:21,22
  126:13 128:19
  185:8,9 197:16
  200:23 217:8
impossible
  121:19 124:18
  195:7
imprint 146:7
  146:11 217:10
  217:14
imprinted
  216:12
imprints
  147:18
inaudible 141:4
  141:5,9 145:17
  203:15
inch 57:22,23
  58:1,4,9,11
  59:3,13,22
  86:2,24 87:2
  98:13,17,21
  99:9 101:10
  114:14 217:13
  218:20 219:14
  219:14 224:8
  224:10,11,12
  225:11 227:15
  227:25 228:4,4
  228:7 229:10
inches 58:3
  86:14,15 87:9
  97:1 98:1,17
  101:7 102:8

106:3 127:6,8
127:10 128:18
128:25 129:2
129:11,18
137:24 138:9
138:10,12
139:22,25
140:11 146:21
146:22,23
147:1,5 184:22
185:10 198:13
198:20 199:1,8
199:9 202:3,11
217:4,18 218:2
224:7,9 225:6
225:7,9 226:2
226:6,13,14,19
226:20 228:1,5
228:16,17
229:3,7,8,20
incident 27:20
  41:11 57:13
  76:4 82:10
  86:4 116:15
include 50:17
  64:16 114:1
  133:12 135:3,7
  135:9 195:14
included 56:10
  88:5 90:3
  128:13 133:18
  135:8 183:1
  184:8
including
  158:13

incomplete
  197:15
incorrect
  133:10
increase 184:19
  224:17 232:18
increased
  44:25
independent
  170:25 186:20
  211:18 212:6
  212:19
independently
  23:21 114:22
indexing
  126:11
indicate 51:14
  51:18 52:7
  71:9 80:3
indicated 20:21
  21:22 32:9
  52:4 53:6
  70:23 108:16
  216:22
indicates 52:3
  167:2
indicating
  92:13 149:21
  202:5
indication
  108:15
indications
  58:4
indirectly
  163:2

individual
  23:25 40:3
  53:7 58:25
  96:4 175:17
  176:6
individually
  48:6
individuals
  52:11 53:1
industry 95:16
  166:21 188:24
infer 68:19
influence
  159:17
informal 54:22
information
  11:4 14:19
  19:3 20:3,5
  21:3 32:21
  33:19 34:4
  58:24 59:15
  61:20 69:19
  72:15 75:8
  85:6 94:1
  110:21 127:13
  127:19 128:8,9
  164:21 198:11
  198:19
inherent
  178:18
initial 22:19
  53:10,15
  103:22 174:1,8
  175:2

Veritext Legal Solutions

800.808.4958   770.343.9696

G. Bryant Buchner , P.E.   January 23, 2024
Bryson, Santana and Joshua v. Rough Country, LLC

[initially - issue]   Page 29

initially 37:12	142:3 194:7	**interrupt** 67:24	**invoiced** 50:25
injured 197:12	**inspections**	79:16 87:11	**invoices** 3:18
injury 85:13	56:11 64:13	177:19	50:25 51:18
input 15:21	193:23	**introductory**	65:23 67:6
21:23 22:5,16	**installed** 46:6	75:24	69:25
25:6 98:20	97:17	**intrude** 195:12	**invoicing** 68:5
99:3 104:11	**instance** 153:20	**intruding**	**involve** 44:5,12
111:21 114:8	**institute** 41:18	140:14	56:16 171:10
114:11 119:12	**intact** 149:13	**intrusion** 44:25	195:2,9
119:13,14,16	149:17 150:7	141:23,25	**involved** 11:10
171:11 176:15	150:17	144:9,25	16:10 19:2
177:5 181:4,5	**intake** 47:20	145:18 195:1,8	26:9 32:25
182:1,1 185:14	51:13	195:22 196:16	37:20 45:17
187:5,14,24	**intend** 58:23	200:12	53:5,8 54:4
190:22 191:17	160:19 161:21	**invaded** 143:23	57:13 62:24
192:25 193:1,4	194:22	**invading** 142:7	86:4 107:2
208:20 210:4	**intended** 36:17	**invalidate**	110:3 116:16
215:19 230:1	226:11	163:16	136:2,14
inputs 16:12	**inter** 175:5	**investigate**	153:21 167:20
21:25 22:4,20	192:17,18	15:10 17:14	175:17 176:6
26:12 28:24	**interest** 234:7	89:16 173:5	190:15 195:19
114:3 155:12	234:11	**investigated**	197:4
inputted	**interested**	45:17	**involvement**
179:21	164:4,5 190:10	**investigating**	51:15
inputting 176:2	190:12,13	18:10 21:4	**involves** 163:10
176:5	214:8 219:1	**investigation**	**involving** 44:6
insert 161:7	235:20	92:19	167:20 171:6
inside 123:22	**interlocking**	**investigator**	195:21
inspected 64:23	121:21	218:14	**irrelevant**
76:17 78:14	**internet** 59:2	**invoice** 51:8,9	190:17
84:9	184:2	55:23 57:16	**issuance** 68:13
inspection 56:5	**interpret** 75:4	60:4,7 61:24	**issue** 8:15
56:7,24 57:2	**interpreted**	64:1 66:5,15	11:22 37:3
58:12,17 59:18	199:15	66:17 70:2	81:16 86:25
80:4 89:5			165:21 166:14

G. Bryant Buchner , P.E.
January 23, 2024
Bryson, Santana and Joshua v. Rough Country, LLC

[issue - know]

Page 30

166:17 199:17
issues 10:8
13:11 105:13
it'll 55:1,1
103:13 148:22
176:12 182:4
220:23
item 84:21 88:3
items 10:23
82:21 83:6,22
84:9 133:3
135:13 198:6
iteration 170:4
iterative 15:14
154:24,24

j

james 56:8
january 1:17
4:2,5 55:19,25
235:2
job 55:3 60:16
69:24 93:1
133:15
joke 12:5
jonathan 2:20
joshua 1:4
183:15
judge 196:20
judgment
16:22 192:11
214:17 230:25
judgments 40:4
judith 1:22
235:24

july 69:6
junior 14:20
16:6 52:22,22
54:7
jury 16:10
126:5 156:6

k

keep 6:15 15:15
15:16,16 41:12
47:13 124:12
124:13 154:20
kept 7:17
key 7:8
keystrokes
16:24 17:11
keystroking
16:7,9
kind 16:10 20:6
21:15 30:10
34:13 37:22
43:25 52:4
60:10 70:20
73:5 84:17
93:16 94:2
97:10 98:10
113:14 114:12
120:13 121:23
122:25 146:6
149:18 170:6
178:23 181:21
192:3 194:15
212:16
kit 46:6 57:18
57:23 58:17
59:3,3,13,17,22

138:15,21
kits 57:19,21
58:22 59:19
knew 17:8,8
22:3,3 25:11
25:11,12,12,14
25:21 40:5
58:2 104:2
161:13 169:13
174:25
knocked 87:14
88:16
know 5:13 7:9
8:16 10:22
11:9 13:7 14:9
14:22 15:7,14
15:17 16:6,15
17:19 18:19
19:20,22 20:6
20:16,24 21:22
25:8,9,15 28:4
29:15 31:7,9
31:14,19 32:1
32:2,6,7,8,20
33:18,23 34:25
35:6,12,14
36:18 38:22
39:20,25 42:1
42:10 44:7
45:3,6,19,24
46:1,11 48:10
48:16,19,21,24
49:5,6 50:11
51:5 52:13
53:9,11,15,17

53:18 54:17,22
54:24 55:2,6
55:16 57:7,22
58:8 59:7
60:18,20 61:20
61:21 64:24
65:5,10 67:10
67:13,16 68:18
68:21 70:2
72:3,16 73:6
75:3,9,10 77:7
78:5 80:19,23
81:10,14 82:4
82:7 83:4,16
83:21 86:8
87:7,8 88:16
89:10,10 90:13
96:6 97:9,17
100:22 101:11
102:6,11
103:24 104:8
104:21 106:2
106:17 107:5
108:18 109:9
109:17 111:3
112:15 114:3
115:20 118:19
120:4,21
121:10,25
122:4,7,11
123:2 124:3,25
125:9,22 126:5
131:19 133:14
133:22 134:5
135:5,6,6,11,22

Veritext Legal Solutions

800.808.4958
770.343.9696

G. Bryant Buchner , P.E.   January 23, 2024
Bryson, Santana and Joshua v. Rough Country, LLC

[know - lift]   Page 31

136:9 137:25	199:14,15,25	**laid** 226:24	**letting** 92:24
138:15,18	200:9,21	**large** 170:22	156:1 161:19
140:24 142:2,4	203:18 204:24	**largely** 92:5	161:19 191:25
142:4,17 143:6	210:17,20	149:13,17	**level** 100:22
143:19,21,23	211:4,11	150:7	124:9 130:17
145:10,11,11	212:21 213:2	**larger** 14:5	131:13,19,21
146:16 147:13	214:4,12 215:1	86:2 87:3 98:5	132:8,11,13,16
149:2,24 150:6	217:9,15,17,19	138:16	132:22,24
151:9,14,23	218:10 220:2	**lasts** 190:11	133:1,22
152:13 155:14	221:11 227:1,2	**lateral** 90:14	140:14 149:12
156:5 157:9,16	228:20 229:19	103:23	149:16 156:12
157:20 158:22	229:20 230:3	**latest** 170:4	157:5,25 158:1
159:16,23,24	230:15 232:19	**law** 106:25	158:9 190:8
160:6,23	232:20	234:4	215:13,17,18
162:23 163:14	**knowing**	**lawyers** 46:14	215:19,24,25
163:18 164:13	164:18 180:13	46:15 51:19	216:7 217:8
164:24 166:5	**knowledge**	**lay** 40:25	222:13 232:18
166:18 168:10	28:13,14	**laying** 86:16	**leveling** 228:11
169:1 170:7,15	**known** 152:20	**lead** 219:14,15	228:14
170:22 171:24	174:9 180:16	**lean** 105:11	**levels** 132:24
171:25 172:9	189:1	**learn** 15:5,9	215:13,22
172:11,12,15	**knows** 24:18	32:22 33:22,23	**license** 183:4
173:1,3,3	29:25 30:1	134:6	**life** 15:8
174:10,19	109:3 218:8,9	**leave** 63:12	**lift** 44:24 46:6
176:13,13	218:10	66:13 74:18	57:17,19,21,23
177:6 178:3	**l**	**led** 121:6	58:1,4,9,11,17
179:4,8 184:14	**l** 1:22 2:4,5	**left** 146:17,24	58:22 59:13,19
185:4,19 186:8	235:24 237:1	149:20,22	59:22 138:15
186:10,17,17	**label** 149:8	181:12 182:10	138:21 139:21
190:11,17	**labeled** 73:23	186:13 224:8	217:5 224:4,6
191:17 193:8	117:10 130:1	**legos** 142:8	224:9,12,12
194:7 195:21	201:19	**leitz** 1:22	225:4,6 226:7
196:3,5,6,20,23	**lack** 97:20	235:24	226:8,11,12,12
196:25,25	176:7 203:4	**leon** 2:7	226:20 228:7
198:16 199:6			228:15

Veritext Legal Solutions

G. Bryant Buchner , P.E.   January 23, 2024
Bryson, Santana and Joshua v. Rough Country, LLC

[lifted - looked]   Page 32

lifted 38:6 44:6
  44:9,12,24
  98:5 117:3,4
  118:17 121:15
  125:16 137:23
  138:1,5 195:2
  195:9,21
  198:13,16
  199:1,7 204:20
lifting 228:12
  228:13,16,17
likely 54:4
  232:21
likewise 210:8
limit 47:11 76:4
limited 30:11
  44:2 204:20
line 86:5 118:8
  118:9,14,15
  146:13 158:5
  197:9 213:19
  213:23 214:10
  214:16 215:4
  215:24 216:6,7
  216:10 220:24
  221:13 238:19
  239:1
lines 103:25
  118:7 206:17
  211:17
link 174:4
list 3:14 43:7
  43:21 44:3,4
  46:9,22,24
  47:24 50:2

52:24
listed 43:24
  56:5 91:10
  117:9 207:22
listen 178:4
listing 77:1
  150:23
literally 140:22
  140:23 146:19
  195:25
literature
  168:23
little 17:11,24
  22:10,12 24:15
  24:16 43:4
  55:16 77:10
  88:15 105:4
  109:2 113:10
  134:21 141:11
  145:15 146:7
  146:22 147:1
  152:4 154:3
  156:2 168:9
  175:8 182:14
  182:17,21
  194:1 221:14
  225:25 226:8
  226:12 228:18
  229:3,20
  230:25
llc 1:9 2:6,14
llc's 3:9
loaded 56:22
  188:10

local 81:5
locate 6:23 7:20
  143:5,7
located 83:23
  142:4 160:7
location 16:18
  83:22 84:8
  140:13 144:2,3
  144:10 145:1
  157:16 158:20
  181:19 185:7,9
locations 84:7
lock 7:8 126:8
logical 85:9
logo 147:12
long 15:15
  64:21 80:21
  81:24 163:6
  166:10 181:6
longer 34:11
  36:20 103:12
longitudinal
  90:13,13
  103:25
look 13:3 17:2
  19:1,2,13
  22:25 31:10
  32:6,7 33:3
  35:19 40:2
  43:4 45:11
  51:6 53:7
  56:12,12 57:24
  62:14 64:25
  66:4 69:18
  72:16 76:7

77:1,14 78:7
  78:20 79:9,13
  81:2 84:13
  89:5,19,20,21
  92:16 93:8
  97:4 99:17
  104:4 105:2
  107:23 113:9
  113:13 121:12
  131:16 138:9
  139:16,21
  142:22 144:16
  144:18,18
  147:10,11
  148:5 157:4
  159:15 163:22
  164:19 166:17
  168:22 170:1
  179:8 182:2,13
  183:7 186:20
  194:17 196:21
  197:20 214:23
  216:11,16
  218:15 221:4
  227:5 228:24
  231:2
looked 7:5,12
  20:8 39:16
  56:9 58:4 65:6
  78:10 83:20
  112:7 153:5
  170:23 179:20
  181:17 199:17
  221:1

G. Bryant Buchner , P.E.   January 23, 2024
Bryson, Santana and Joshua v. Rough Country, LLC

[looking - marked]   Page 33

looking 6:16
  21:25 29:16
  31:20 54:9
  60:23 63:1
  65:6 67:20
  71:18 86:5
  92:8 95:13,18
  95:22 99:8
  101:13 102:11
  105:1 109:14
  113:8 114:25
  114:25 122:23
  129:1 133:1
  137:9 139:11
  158:4 160:19
  160:22 163:3
  186:8,14
  189:21 192:16
  194:12,20
  196:21 197:1
  207:15 211:19
  212:17 222:19
looks 65:7
  102:7 156:13
  179:10 182:7
  182:14 222:8
lost 34:19
  99:18
lot 15:11 16:14
  17:4,17 26:1
  32:3 34:19
  37:10 45:10
  46:6 48:17
  53:11 55:1
  75:25 89:20

138:3 169:23
  186:11 217:24
lots 211:11
love 156:6
low 227:25
lower 227:15
  231:16
lowest 231:9
luggage 82:17
  82:18
lynn 41:17

m

macro 144:16
madam 141:13
made 36:11,12
  37:17 61:15
  136:21 146:20
  217:13 221:11
  223:25 224:5
  226:19 234:3
  234:21
magnitude
  91:18
mail 237:10
main 122:17
maintain 7:6
  46:19
maintaining
  234:13
majority 16:7
  43:22,23
make 12:7 16:2
  17:10 22:14
  27:4 28:23
  31:6,23,24

32:14 40:3,7,8
  48:5 50:6 51:2
  59:7 60:19,25
  63:8,12 69:18
  75:25 76:12,14
  85:22,24 86:18
  91:5 93:8
  94:16 95:18,20
  95:21,25 98:7
  99:13 100:19
  101:21 106:13
  108:5 110:7
  115:12 116:12
  122:18 123:11
  134:9 146:3
  151:7 159:8,10
  178:4 182:4
  186:2 194:9
  199:21 201:1
  203:18,24
  205:24 206:4
  223:10 224:7
  229:22 234:10
  238:10
makes 54:14
  76:13 91:1
  132:17 219:15
making 17:6
  33:12 60:17
  64:7 90:20
  113:1 159:19
  234:12 238:13
  238:13
manage 47:7,9

management
  52:21
manager 52:19
  52:23
managers
  52:25
managing
  133:16
manipulate
  115:11 161:25
manipulates
  174:5
manipulating
  25:4
mansell 237:18
manual 101:1
manually 237:8
manufacture
  62:5,8
manufactured
  62:23 79:18
  80:18
manufacturer
  80:21 81:17
  96:18 97:8
  228:19
mark 12:18
  43:7 73:12
  75:11
marked 10:16
  12:14 43:10
  50:3,22 73:15
  75:14 106:20
  117:6 149:5
  223:11

G. Bryant Buchner , P.E.   January 23, 2024
Bryson, Santana and Joshua v. Rough Country, LLC

[marks - measurement]   Page 34

marks 146:20
  146:24
married 122:9
marries 146:10
mashman 2:5
  4:13,17
mass 185:19,20
  185:21,22,22
  185:25 186:4,4
  186:9
match 19:19,20
  22:5,17 23:9
  25:18 94:24
  106:15,18,18
  113:23 143:18
  144:17 154:25
  155:1,3,7
  174:9 176:18
  180:16 191:17
  192:12 193:18
  204:3 205:25
  206:4 209:11
matched 62:15
  147:4 154:1
  216:13
matches 169:18
matching 22:21
  23:5 141:2
material 5:13
  76:25 99:10
  166:3 167:1
  198:6
materials 54:8
  71:21 75:4,6
  82:13 107:8,9

117:10 139:12
  183:1 200:15
math 106:12
  210:17 224:2
  224:13,23
  228:24
mathematical
  22:10 116:13
  126:24
mathematically
  119:6
mathematics
  206:8
matter 43:5
  52:12 76:23
  91:12 114:14
  114:16 144:14
  185:23 186:16
  186:16,17
  234:11,17
matters 171:23
max 155:10
maximum
  103:20 105:22
  118:3 140:14
  141:22 145:18
  150:23,24
  219:4
mean 7:11
  14:23 15:2
  17:21 21:8
  23:17 31:12
  35:8,19 38:25
  43:2 44:14,16
  47:9 49:10,12

53:5 56:6 57:5
  57:8 59:11
  61:11 63:20
  67:23 68:19
  78:1 83:9
  88:12 95:9,14
  96:13 103:17
  108:21 117:5
  122:24 124:21
  125:9 126:10
  126:14 127:9
  134:13,25
  136:15,17
  137:12 140:25
  141:7 142:9
  151:6 154:13
  160:3 163:21
  166:12 167:15
  168:20,23
  171:8 172:9
  177:9 184:25
  185:3 188:16
  195:25 203:3
  204:7 210:22
  214:22 216:17
  216:18 230:18
meaning 28:3
  118:2 131:20
  146:18 168:2
  187:23
meanings 94:4
means 11:14
  21:17 117:20
  133:14 161:14
  199:6

meant 24:25
  76:21 198:22
  202:11
measure 27:8
  80:7 86:16
  100:24 101:14
  104:5,14
  129:11 131:12
  132:5,8,11
  133:21 135:20
  136:10 139:25
  144:24 163:7
  190:21 214:3
  216:15,19
  219:17 229:4
measured
  25:23 80:3
  82:9 101:15
  103:5,24
  105:23 110:10
  110:11 115:14
  129:19 134:7
  138:5 152:15
  176:19,19
  191:13 217:6
  226:25 227:4
  227:10
measurement
  85:15 86:18
  88:5,10 90:3
  104:10 106:1
  110:15 121:8
  142:13,20
  148:20 220:20

800.808.4958   770.343.9696

G. Bryant Buchner , P.E.   January 23, 2024
Bryson, Santana and Joshua v. Rough Country, LLC

[measurements - model]   Page 35

measurements 60:14,19,25 80:12 100:6,10 100:13,19 102:4,7 106:8 118:10 121:1 131:21 138:25 157:24 168:11	**memory** 14:2 64:19 67:17 104:10 182:9 197:7	171:4 211:23 212:22	183:2 199:21 201:1
measures 26:4 101:14 214:6 227:9	**mention** 49:25 88:18 90:5	**methods** 102:13 114:15 114:20 151:21 151:22,25 152:3 211:19 212:4,6,8 227:3	**minutes** 38:22 66:1 201:3
measuring 101:16,23 102:1 114:13 129:7,7 142:24 143:3 144:1 152:23 156:11 229:6	**mentioned** 70:25 75:12 86:12 109:10 115:7 117:15 141:20 170:13 204:6 206:5 215:3	**miami** 14:3,3,4 14:6	**mis** 224:14
			misexpressed 224:15
			misfiring 37:11
		middle 184:12 208:1	**misrepresent** 91:19
	mentioning 73:21	**mile** 196:11,24	**missed** 108:19 199:22 226:16
mechanical 121:20	**mentions** 169:1	**miles** 76:4 111:13,22 115:2 168:18 207:25	**missing** 20:3,5 69:19 104:21 128:14 200:5,8
mechanics 21:9	**messages** 9:11		**misspoke** 111:21 112:4
mechanism 99:1 162:18	**messy** 73:5	**miller** 2:20	
	met 5:7	**millionth** 176:1	**mistake** 223:25 224:5,24 226:20
mechanisms 85:13	**metal** 24:15 26:20 79:2,3 163:10 223:4	**mind** 15:18 44:19 48:18 185:5 188:25 200:8 201:20	**mistaken** 226:15
medical 182:25 183:5,15,18,22	**method** 114:17 114:18 117:24 118:6,9,11 119:6 151:20 166:5 168:3		**misunderstan...** 30:3 131:25
		mine 38:12 73:2 92:17 162:3	**misunderstood** 139:14
meeting 51:22 54:23	**methodologies** 114:11 132:14 152:22 170:18 170:25	**minor** 1:6 78:4 108:5 170:16 181:6	**mix** 114:20
melanie 65:18 65:20			**mixing** 136:9
		minus 80:25 81:1 226:4	**mockup** 62:14
memorialize 104:17	**methodology** 118:16,22 119:1 134:1 163:15 167:3	**minute** 7:2 105:3 111:21 112:5 113:13	**mode** 185:20 185:20,21,22 186:3
memorialized 104:25			**model** 27:1,17 27:22 31:2 42:4,15 62:18

Veritext Legal Solutions

G. Bryant Buchner , P.E.   January 23, 2024
Bryson, Santana and Joshua v. Rough Country, LLC

[model - normal]   Page 36

95:21 96:22,22
99:4,12 113:25
120:6,7 151:8
157:5 163:13
184:21 185:8
209:18 225:2
modeled
103:20
modeling 41:22
models 97:22
110:5 221:25
modify 16:17
158:19 175:13
module 92:13
174:7
modules 16:14
moment 56:18
70:12
momentum
35:19 109:24
110:9,19
113:25 119:20
119:22 164:11
204:1 205:6,10
monte 151:18
151:24
month 47:17,18
53:22
moran 1:22
235:24
morning 104:2
mosaics 60:17
motor 195:24
move 7:9 19:15
37:15 145:16

146:23 147:5,7
147:10
moved 103:1,6
114:13 140:4
143:6,13,17,24
184:13,22
223:7
movement
102:17,21
144:6
moving 60:4
61:24 185:10
muffler 149:25
multi 212:19
multiple 45:23
57:18 167:17
212:16
multiply 98:16
226:5
mushy 92:7

n

n 3:1
n.e. 2:15
nail 35:6
145:22
nails 35:8
name 5:6 49:6
49:14 52:8
58:14 65:17
names 49:17
nature 69:1
near 33:23 58:9
138:12 151:6
151:13 182:7,8

nearly 148:18
necessarily
72:22 96:20
97:12 214:9
necessary
238:15
necessity 46:5
need 8:8,8,20
14:18 15:24
19:9,25 20:6
20:12,13 21:24
27:8,9 28:11
28:18 35:15,22
38:2,2,4,13,17
42:14,23 63:16
111:4 113:1,14
122:18 129:10
129:20 141:15
178:8 189:8
204:23
needed 15:19
16:12 26:2,3
38:19 69:19,21
72:15,23 81:18
130:12 153:25
184:4
needing 17:21
needs 63:6
176:10 177:5
negative 91:10
91:11,15
negatives 91:13
neither 195:21
nep 188:19

neptune 23:1
130:2 131:16
177:2,12
179:22 180:1
187:6 188:4,14
188:20,23
189:1,8 190:1
190:2 207:20
nervous 10:12
never 9:22
33:23 38:9,14
49:17 115:16
115:20 134:15
164:22 225:13
new 48:14
51:12 125:3,4
150:16 179:13
nhtsa 188:16
188:20 189:19
189:23 190:3
nodding 180:2
non 224:18
nondeployme...
107:20,24
108:1
nonlift 195:20
nonlifted
116:24 195:11
195:13 202:22
normal 36:7,8
37:18 124:3
136:1,3,13,15
136:17 137:1,5
137:6,12,16
160:24 161:21

800.808.4958   770.343.9696

G. Bryant Buchner , P.E.   January 23, 2024
Bryson, Santana and Joshua v. Rough Country, LLC

[normal - oh]   Page 37

168:15
normally 26:2
  45:13 51:17,23
  55:15 93:21
  94:10,13
  123:22 129:24
  158:3 161:14
  163:22 164:3
  172:24
northern 1:1
northwestern
  41:17 152:7
  168:24,24
notaries 236:4
  236:8
notarized
  236:8 237:10
notary 239:24
note 12:20 76:3
  92:8
noted 213:17
  238:5,6
nothing's
  219:19
notice 3:9
  10:19 11:7
  52:7
noticed 74:11
noticing 234:16
notification
  77:4
noting 237:7
number 46:14
  47:11 55:17
  66:5,19 95:10

95:17,19,20
104:19,20,25
105:3 119:15
129:15,16
148:14 149:9
149:10 151:16
154:15 176:22
190:1 191:15
191:21 192:1
196:13,18,24
209:6 227:11
numbers 25:18
  151:8 152:22
  182:6,13
  208:22 209:9
  209:11,15
  210:9,10,13
  211:4 213:11
  213:12,13,14
  217:19 226:22
nut 32:2,6,15

o

o 65:18
object 29:1
  48:2 134:16
  167:13 168:5
  197:14 200:6
  203:16
objection 10:24
  200:22
objections
  10:23
objective 60:12
objects 45:22
  184:2

obligation
  234:13
observation
  58:8 122:18
  135:21 159:18
observations
  77:21,22 80:2
observe 137:4
  161:16 162:9
  162:11
observed
  141:21 193:2
  195:22
obtaining
  58:22
obvious 123:3
obviously 7:7
  21:23 27:18
  44:22 68:9
  118:8 144:21
  149:9 162:23
  170:11 171:9
  211:21
occupant
  110:12 135:24
  136:5,24
  187:24 195:1,8
  195:12,14,22
  196:17
occupant's
  142:7
occupants
  82:14 135:23
  182:3,7,19,24
  185:25

occupying
  223:1
occurred 20:23
  51:13 69:1
  94:25 105:8
occurring
  57:20
ocga 234:6,7,18
  236:11 238:9
october 3:16
  60:8 61:7
  68:12 73:20
  74:1
oem 97:20
  224:18
offering 230:11
office 41:20
  51:22 52:2
  54:21 56:8
  57:12 69:11
  134:8
officer's 69:22
officers 60:16
  61:15 69:15
  76:8 107:9
offices 237:3,10
offset 103:23
  104:11
oh 4:16 13:22
  29:25 31:13
  70:7 108:3
  151:1 158:22
  177:16 194:4
  194:20 225:12

G. Bryant Buchner , P.E.   January 23, 2024
Bryson, Santana and Joshua v. Rough Country, LLC

[okay - overlaps]   Page 38

okay 5:20 6:20	165:7 168:5,7	**opining** 84:24	**orientations**
7:24 10:3,6,13	173:14 175:22	**opinion** 34:25	16:23
10:15 11:19	176:21 178:1	82:11 91:25	**original** 6:12
12:18 13:13	178:16 179:3	118:15 123:13	6:22 7:4,21 8:3
15:20 16:9	179:17,21,25	124:17 126:1	9:4 48:17
18:7 19:11	180:7,12,15	134:14 161:4	86:12 122:9
21:16 22:23	181:14 184:7	172:3 184:24	142:2 152:6
27:25 31:13	185:18 187:13	198:15,21	182:10 229:11
37:22 39:15	187:15 188:9	210:10 211:9	237:12,14
42:21 47:5	189:14 194:21	**opinions** 13:10	**originally** 7:15
49:22 53:4	195:6 199:14	59:19 76:12	9:14 203:2
57:10,15 59:16	199:19 201:24	168:4 189:18	**outcome**
59:24 61:24	202:14 203:8	194:22 198:9	197:18
63:11,18,25	205:10 206:7	198:23 200:24	**outline** 60:14
68:3 69:4	206:12 208:14	**opportunity**	**output** 22:6,16
71:16 74:14,20	209:11 210:3	63:21	25:6 154:1
75:16 76:2	210:12 211:9	**opposed** 158:4	179:7 191:18
77:12 81:7	213:22 216:25	**options** 169:2	193:2,5,13
83:4 90:6 93:5	220:19 223:12	**orange** 171:15	206:4,5
95:17 97:24	224:1,2 225:20	171:16	**outputs** 17:3,4
99:7 100:5,16	225:22 227:23	**oranges** 33:4	22:4,21 23:5
102:7 104:14	229:14 230:3	136:10	25:5 26:12
106:11,23	**once** 16:25,25	**order** 16:12	**outside** 34:24
108:4 111:14	23:4 65:16	31:6 32:11	35:15 36:6,23
117:2 118:25	101:17 108:11	36:1 47:12	38:23 130:3
119:8 121:10	121:18 147:7,7	59:7,17 197:25	136:7 158:25
127:12 128:24	185:14 237:9	205:21	160:23
132:19 133:8	**one's** 81:14	**ordered** 60:1,1	**overall** 91:18
134:8 139:8	102:14 152:5	96:9	127:24 157:4
143:2,25	**ones** 81:5	**ordering**	186:16 203:13
144:14,21	108:10 110:9	234:24 237:13	**overlap** 211:20
146:5 147:15	195:24 208:20	**organization**	211:22
148:4,16 149:2	**open** 8:12	41:25	**overlaps**
153:14 155:9	24:15 93:1	**orientation**	212:17
156:9 162:2,18	202:1	24:6	

G. Bryant Buchner , P.E.   January 23, 2024

Bryson, Santana and Joshua v. Rough Country, LLC

[overlay - penetrated]   Page 39

overlay 141:20	**page** 3:2,7	230:13 231:5	176:20 181:8
141:23,25	12:22 13:13,14	**paragraph**	182:3,12 197:8
144:6 145:24	55:19 66:7	105:4,15	**particularly**
146:3 222:12	75:20 76:3,14	108:15 153:4	41:3
overlays	76:16,16 77:20	**parameters**	**parties** 234:18
221:24	80:2 85:21,22	17:12 39:3	234:24 235:18
overreport	85:24 86:6	211:7	236:12,14
231:10	94:17,21 95:4	**pardon** 113:4	237:13
overridden	99:17 100:5	133:9,9	**parts** 21:6 38:1
124:19	102:16 103:19	**parents** 1:5	106:2 146:2
override 34:9	105:5,5,15	**part** 14:5 18:25	148:5 162:20
45:10,17,19,23	108:4 113:10	24:17 40:13	**party** 234:14
46:1,6 120:19	116:9 117:15	49:9 55:3 67:8	234:19 236:13
121:7 122:22	118:19 126:22	74:25 85:18	**passenger**
125:2,10,18	128:8,14,23	88:10 95:5	195:8 196:2
126:3,12,19	129:19 137:20	113:2 119:12	199:12
136:16 160:8	137:21 148:9	119:13 121:4	**password**
160:10,10,17	148:16 149:11	128:22 129:13	234:23,24
160:19,20,21	150:22 153:1,2	130:8 131:14	**past** 5:8 18:7
161:1,3,5,10,13	192:17,18	131:22 132:4	44:23 172:17
168:8 196:16	202:1 203:8	132:16 133:13	219:19
overriding	205:14,20	135:10,16	**patience** 75:24
124:7	208:9,18 209:4	136:5,6,6	**pay** 48:16
overvalue	213:5 238:19	152:23 163:1	230:22
114:21	239:1	165:15 171:13	**pc** 163:24
own 41:14 81:7	**pages** 94:20	173:2 185:25	164:6,10
81:8 158:7	118:23 192:4	194:6 205:23	**pdf** 237:7,7
180:8 214:17	206:13 208:25	206:9 218:14	**pe** 235:2 237:2
215:12	238:15	230:7 231:3	239:19
	paper 5:21,22	**particular** 13:7	**peachtree** 2:15
p	7:6 24:14	16:5 84:13	**peer** 166:2
p 65:18	130:21 208:23	95:15 122:23	167:10
p.e. 1:13 3:12	208:24 209:3,6	155:23 156:13	**penetrated**
5:1	**papers** 131:17	158:20 159:12	122:1 140:7
p.m. 233:10,12	167:23 230:10	174:7,22	148:10 222:20

G. Bryant Buchner , P.E.   January 23, 2024
Bryson, Santana and Joshua v. Rough Country, LLC

[people - point]   Page 40

people 53:8
  67:18 90:19
  182:16 183:3
  183:18 185:16
  190:5 211:24
percent 46:23
  46:25 127:21
  127:21 128:1,2
  181:23,24
  182:18 184:20
  186:19 211:12
  211:12 212:25
  213:3
percentage
  46:12 47:2
percentages
  128:21
perfect 87:7
  94:15 162:4
  172:1,11 182:9
perfectly 19:20
  24:12 62:15
  151:9 169:9
perform 34:23
  36:15 138:25
  145:24 150:18
  151:17 165:24
performed
  56:23 67:16
  76:17 189:11
  189:17
performing
  34:22 191:19
period 38:20
  44:4 45:16

  55:21,24
periodically
  81:19
person 14:1
  52:8,20,22
  64:8,11,13
  65:21 136:24
  197:12
person's 65:12
personally
  14:25 69:18
perspective
  155:17 193:9
phase 9:22
  123:8 190:11
phone 51:24
photo 60:17
  84:13 89:22
  194:8,17
photograph
  84:8 149:5,10
  149:15
photographed
  80:11
photographing
  60:17
photographs
  61:12 69:22
  149:7
photos 78:10
  79:13 84:12
  89:5 217:7
  227:6
phrased 30:8

physical 19:8
  19:13,19 33:25
  56:24 84:21
  145:19,22
  172:23 213:19
physically 19:1
  57:12 101:14
  101:15,23
  102:1
physics 15:10
  29:25,25
  152:13,19
pick 134:25
  215:18
picks 215:20
pickup 19:24
  89:2 130:10
picture 59:8,9
  59:11 221:18
pictures 59:2
piece 154:14
  198:10,18
  199:18
piecemeal
  36:21
pieces 36:22
  142:20
pillars 33:6,7,7
placard 202:6
  225:2
placarded
  202:5,16
place 62:16
  76:8,9,25
  101:8 114:8

  141:4 145:18
  234:17
placed 141:21
plaintiff 46:14
  46:18,25
plaintiff's 5:17
plaintiffs 1:7
  2:3 4:13,17
  5:14 6:6 11:14
plan 198:22
  200:4
plane 190:8
plasticity
  178:21
platform 28:7
play 126:19
  181:3 186:23
played 123:14
plays 181:6
please 4:9,21
  4:22 89:22
  93:15 150:25
  223:13 237:6
  237:10,17
  238:14,16
plot 213:12
  219:19 220:22
plotted 213:16
plural 153:17
plus 80:25 81:1
  146:25 205:4
point 6:16
  13:16 53:18
  56:1 57:25
  73:7 77:22

G. Bryant Buchner , P.E.   January 23, 2024

Bryson, Santana and Joshua v. Rough Country, LLC

[point - problem]   Page 41

80:2 98:11
119:23,23
122:17 126:24
137:22 138:8
140:6 144:24
148:17,20
149:15 153:1,4
153:12 159:12
173:9 189:6
191:23 194:16
200:1,22
219:12 220:12
220:13 228:3
231:6
point's 88:22
pointed 168:23
pointing 74:11
87:19 88:17
122:24 192:19
points 106:12
106:16,18,19
106:21 108:5
226:16
poked 123:24
146:20
poking 123:24
police 61:13
ponce 2:7
poor 63:17
218:3
poorly 30:8
224:13
pops 175:11,14
175:20

porter 65:18
66:2
position 16:21
83:6 141:22
148:11
positioned 84:1
positive 91:11
positives 91:13
possibility
125:17
possible 125:7
171:8 197:2
possibly 8:8
58:20 232:13
post 82:10
105:6,16
110:24 111:11
posted 76:3
potential
211:10 212:12
potentially
54:16 97:2
111:3
pounds 80:4
88:23 184:5
practical
219:20 229:18
practically
68:21 229:1
practice 6:7
pre 110:23
111:6 117:3,4
precise 186:19
precisely 23:5
24:19

predict 40:20
161:1 162:4
predicting
172:6
predicts 118:6
prefer 164:12
188:23
preliminary
56:11 71:11
premier 41:25
preparation
11:1
prepare 44:14
preparing
68:14 72:22
present 2:19
57:12
presented
108:9 197:24
200:14 234:1
pretty 15:4
21:10 45:4
98:15 154:13
170:7 175:15
191:14 230:6
prevent 121:21
prevented
123:25 124:7
preventing
26:5
previous 86:11
88:18
previously 5:17
primarily
146:8

primary
164:16
primer 41:20
print 8:13 9:13
71:1,19 72:25
127:18 237:8
printed 6:8
7:16 8:7 9:22
71:5,22,24
72:6,17,23,24
73:2
printing 72:11
72:18 73:7
printout
107:10
printouts 10:4
prior 5:15
65:21 82:2
139:18 154:10
154:21 163:19
probably 24:7
45:2 47:2
51:24 53:11
56:22 64:20
73:19 79:20
92:2 109:9
115:1 121:10
138:6,12
158:24 160:15
184:11 189:6
190:16 212:5
231:12
problem 8:11
8:17 76:24
82:6 90:9 97:6

G. Bryant Buchner , P.E.   January 23, 2024
Bryson, Santana and Joshua v. Rough Country, LLC

[problem - pure]   Page 42

103:16 107:19
142:8 165:16
166:22 172:2
197:8 214:13
problems
165:17,18
procedure
238:9
proceeding
234:1,19,23
236:9
proceedings
234:11
proceeds 56:14
process 15:15
26:24 58:6,7
60:24 154:24
154:24 189:3,4
processing 60:6
61:3
produce 154:1
155:24 210:14
223:7 231:21
produced 5:17
9:3 10:3 11:14
13:5 234:20
236:3,7
producing
11:17
product 23:20
production
236:3,8,9,10
237:17
professional
234:13 235:24

profiles 106:1,1
program 10:2
15:4 19:25
22:5,7 23:4
25:5,10 28:5
29:9 30:18
32:17 34:25
36:11 37:1,24
39:8 131:1
155:23 156:1,3
158:25 159:9
159:14,24
160:6,23
163:25 166:19
168:25 169:22
171:12 175:11
175:20 180:5,7
181:19 182:15
186:1 187:1,6
187:9,13,15
188:5 190:19
204:16 210:3
230:8,19,21,23
231:25 232:1
program's
161:9 169:10
programs 15:8
42:9 130:25
159:17 163:17
165:14,21
progresses
207:12
prohibited
234:17 236:11

prohibitions
234:8
project 47:21
48:21 49:4,6
52:10,14,18,21
52:23,25,25
65:14,15
projects 46:18
47:17 48:19
49:15
pronounce
58:13 89:11
pronounced
93:6
pronunciation
58:15 93:8
proper 30:10
32:23 79:7
84:7 154:4
155:12 174:20
176:15,16
228:20
properly 6:9
22:12 31:2,7
32:11,24
property 23:18
23:19
protected
234:23,24
protecting
136:4
protocol
131:22 132:25
133:21,24

protocols
132:16
protrudes
127:9
provide 15:21
20:18 63:5
85:13 190:22
220:20 234:16
provided 5:13
5:14 6:5
189:11 198:7
203:2 219:24
providing
85:12
public 239:24
publication
169:3
published
12:24 86:21
pull 95:11
117:8 137:18
162:20 210:21
221:4
pulled 162:24
pulling 53:13
pulls 185:13
pulse 169:18
purchase 179:6
purchased
57:19 62:2,22
62:22
purchasing
97:9
pure 102:4
123:16 142:19

G. Bryant Buchner , P.E.   January 23, 2024
Bryson, Santana and Joshua v. Rough Country, LLC

[purely - ranges]   Page 43

purely 121:8
purpose 58:21
  69:13 72:18
  94:12 169:25
  194:3
purposeful
  211:6
purposes 28:13
pursuant 238:8
push 122:13
  216:3
pushed 85:1,4
  135:21 140:11
  142:25 150:2,8
  216:1,3
pushing 123:6
put 7:7 16:24
  21:23 25:7
  41:8 54:15
  64:1 65:25
  67:2 68:7 73:1
  74:22 82:7
  83:17 84:4,18
  88:2 98:23
  101:17 102:5
  106:18,21
  112:23 114:23
  138:19 145:24
  154:2 155:18
  155:21 181:11
  181:15,15,20
  182:3,5,15
  183:19 186:1,3
  191:15 192:25
  196:18 201:14

203:10 205:10
206:3 211:4
212:11 226:10
229:6
putt 169:22
  186:12
putting 35:1
  81:13

q

qualification
  124:22
quarter 86:24
  87:9 101:10
  114:14 190:11
ques 199:5
question 8:2
  18:13,21 19:12
  20:20 27:7,11
  29:2,24 30:8
  31:18 34:16
  46:11 48:3,3,6
  49:18 50:8
  67:25 70:20
  88:21 92:18
  97:25 101:21
  103:22 104:2
  108:18 111:17
  112:8 113:3
  125:5 134:17
  139:10 141:11
  141:13,24
  144:13 145:12
  167:14 168:6
  177:24 178:5
  181:22 195:10

195:17 197:14
198:1,12 199:7
199:24 200:1,7
200:20,21
203:17 205:9
206:23 208:12
220:1
questions 12:6
  12:6 26:13
  29:4 38:12,24
  44:1 51:4
  59:25 109:25
  138:3 173:24
  201:13 233:5
  234:20 235:11
  236:4
quick 21:18
  67:21 89:22
  106:23 113:13
  115:25 187:3
  200:25 207:4
quicker 103:13
quickly 12:13
  44:17 57:15
  104:5
quite 22:8
  26:14 58:20
  66:19 114:24
  176:10 217:2
  228:3
quote 117:22

r

r 56:9 65:18,18
  235:1

radius 86:2,20
  87:3
radiuses 87:7
rail 138:4
  157:17
rails 26:19 33:9
  34:19 78:23,24
  79:10,11,12
  137:25 150:2
  157:20 162:14
raise 4:23
  228:7
raised 202:2
ran 23:22
  27:17,19 35:25
  39:5 40:18
  67:9 71:10
  99:13 115:9
  130:24 153:19
  154:11 208:3
range 25:11
  96:23 127:16
  151:15,22
  152:1 210:14
  210:25 211:1,6
  211:24 212:8
  212:10,24
  213:2 218:20
  218:25 224:12
  228:8
ranged 131:3
ranges 139:4
  211:21 212:23
  212:25

[rate - reconstruct]   Page 44

rate 52:3,9,13
  52:14,15 64:4
  92:5 172:3
rates 21:5
rather 198:3
ratio 47:13
  187:21
ratios 152:16
read 74:18
  140:15 141:13
  233:8 237:6
  238:3
readability
  80:23
reader's 75:9
reading 53:15
  81:25 103:14
  228:2
readout 107:6
reads 100:7
real 11:22
  12:12 37:3
  67:20,25 68:21
  89:22 106:23
  115:24 171:10
  171:10 187:3
  207:4 227:23
reality 30:1,1
  115:20 151:8
realize 66:14
realized 59:14
really 14:17
  15:3 17:17,21
  18:20 20:4
  24:18,23 26:1

33:13 35:4
36:11 38:9
45:4 50:8
62:11 63:14
67:8 73:6
87:17 92:22
114:12,15
115:21 116:19
133:15 152:21
154:6,15 158:2
158:5 166:9
170:20 181:9
190:10 194:6
197:11 204:23
211:1 217:8,25
219:1 226:12
228:3
rear 26:17
29:19 30:17
45:21 77:23
78:21 84:20
85:1 121:16
128:3 130:19
131:5,6,7,11
135:12,17,20
136:7,8,23
140:7,9,24
142:7 143:17
143:20,20,23
144:2,2 146:8
146:11,18
148:11,11
150:5,17
158:16 169:9
180:5 181:24

182:8 187:7
195:20 207:3
228:21
reason 19:21
20:21 22:16
32:6 40:15
84:3 124:14
126:4 154:5
165:12 170:14
186:17 238:19
239:1
reasonable
36:13,14 39:17
40:6 119:18
120:13 125:17
135:9 151:9
152:1 154:9
165:23 177:6
177:11 185:9
204:11 212:10
230:23
reasonably
19:5,5 28:2
36:16,23,25
83:8 84:1
124:20,22
125:7 135:3
171:1 176:19
181:7 215:24
reasoning
18:17
reasons 21:1
37:10 161:3
164:3 238:12

rebound 24:10
105:7,19,22
178:20
rebounded
140:20
recalculate
189:8
recalibrated
81:17
recall 44:11,13
44:17,22 45:16
47:3 48:1
52:10 92:10
165:2,9
received 9:2,6
14:14 218:25
receives 234:19
236:13
recent 179:5,6
recently 49:6,9
recess 70:15
116:4 173:19
201:7
recognize
49:13
recollection
83:12,14,25
175:19 188:2
227:22
recommend
42:2
recommended
97:22 138:16
reconstruct
19:6 20:1

G. Bryant Buchner , P.E.   January 23, 2024
Bryson, Santana and Joshua v. Rough Country, LLC

[reconstruct - remember]   Page 45

26:15
reconstruction
41:16 42:8
60:22 66:19,21
66:23,25
152:14 169:1
record   4:4,10
6:8 11:21,25
12:1,3 70:14
70:17 99:22,25
100:1,3 108:1
116:3,6 124:11
173:18,21
201:6,9 223:14
223:17,18,20
233:11 234:11
234:12,20
235:14
recorded   19:24
51:25 107:12
107:16 169:19
235:7
recording
108:10 127:1
records   53:8
70:24 77:5
108:8 182:25
183:5,15,18,22
recreate   9:24
9:25 19:3
red   117:18
118:9,14
213:17,19
215:24 216:6
216:10 222:3

223:3,6
reduced   148:18
213:1 235:12
redundancy
102:12
refer   73:19
117:13 153:3
reference   42:1
49:5 61:25
66:18,21 75:5
108:21 183:3
192:13
referenced
61:13 71:20
72:21 169:3
206:21
references   42:9
147:25 183:9
referencing
66:22,23,24
95:15 107:6
146:3
referring
183:20 198:14
215:4 222:10
refers   60:12
116:13
refine   24:20
153:25
reflect   50:11
64:7 66:20
227:20
reflected   13:8
13:18 65:13,22
70:1

reflecting
192:24
reflects   50:10
50:13
regard   53:21
94:5 172:5
184:7
regarding
173:25
registered
184:15 235:24
regular   165:15
regularly   82:5
regulations
234:5
reiterate   38:2
relate   152:14
207:5
related   42:22
50:18 51:9
67:12 74:21
77:22 109:17
174:23 236:9
relates   11:5,13
70:20 127:24
relating   234:23
relation   83:23
129:22
relationship
234:11 236:11
relationships
152:19
relative   78:12
91:14 150:13
222:15,20

235:17,19
relatively
150:11,16
221:12
relaxation
154:16 155:23
169:16 174:2,4
174:9 175:1
176:2
relevant   9:17
197:12
reliability
172:5
reliable   27:20
36:1 59:16
166:4 167:3
168:3
reliably   35:17
rely   34:12
37:23 99:13
172:22 198:8
relying   13:9
59:18 122:21
145:23 189:16
remarkably
123:8
remember
13:23 14:6,17
44:15 45:9,12
49:17 58:6
62:3,4,7,10
64:18 65:3
69:20 75:7,10
77:9 79:8,9,14
80:20 81:6,21

G. Bryant Buchner , P.E.   January 23, 2024
Bryson, Santana and Joshua v. Rough Country, LLC

[remember - restitution]   Page 46

84:13 89:14,17	74:7,10,24	232:11	**researched**
92:11 107:17	75:1,2,5,17,19	**representation**	107:20
107:21 119:22	75:22 94:22	70:5 165:23	**reservation**
129:16 153:24	116:8 137:18	214:11 230:24	160:12
163:21 164:2	137:21 149:12	**representations**	**reserved** 237:6
165:6,16,17	150:21,23	234:3	**respect** 22:4
166:13,14	201:16,18	**representative**	30:4
175:13 193:10	207:19 211:3	27:14 29:15	**respected**
193:11 194:11	214:2 225:5	120:2 132:10	166:20
194:12,13	226:10 234:12	**represented**	**respectively**
196:23 197:3,6	**reported** 1:21	221:5	206:19
201:21 217:1	107:9 151:11	**representing**	**responsibility**
229:5	214:7 218:18	163:5,7	159:2
remind 128:17	**reporter** 4:15	**represents**	**responsible**
129:9	4:21,22 49:25	17:13 130:14	159:22 160:13
reminding	73:14 99:18	176:25 219:4	**rest** 9:19 113:5
127:5 128:25	141:14,15	221:14 236:3,5	**restitution**
remote 1:14 2:1	201:22 208:16	**request** 236:9	17:25 22:8,24
remotely 1:21	234:1,2,6,9,21	236:14	23:8,11,22
4:1	234:22 235:24	**requested**	24:1,24 25:5
remove 193:24	236:5,7	10:23 11:4	25:19 26:10
removed	**reporting** 94:1	233:13	110:18,20
194:16	126:25 129:10	**require** 43:23	111:24 112:1
repeat 141:17	214:9 215:12	106:3	112:18,24
167:5	234:5,16	**required**	113:22 114:2,9
repeated	**reports** 7:17,22	187:22,23,25	115:4,8,11
141:15	8:5 9:13 71:1	**requirement**	119:9,17 120:9
rephrase 18:23	71:24 72:14	149:3	154:16,17
report 3:19 9:2	192:15 215:21	**requires** 55:6	155:10,22
9:3,7,7,10,11	215:22 236:13	228:12	169:17 174:6
13:6 28:23	**repository**	**rerun** 8:10,20	176:3,4,4,8,24
53:16 68:12,13	234:24	8:23,24 72:13	177:22 178:14
71:19,21,25	**represent** 4:10	72:18 154:12	178:19 180:8
72:10,12,16,22	60:11 174:22	**research** 14:19	180:19 191:1,4
73:21 74:1,3,5	207:1 222:17	77:10	191:10,21

G. Bryant Buchner , P.E.   January 23, 2024
Bryson, Santana and Joshua v. Rough Country, LLC

[restitution - robust]   Page 47

192:20 203:12	**ride** 96:15	85:21,22 86:11	160:25 166:15
203:13,23	**right** 4:23 7:19	87:10 88:8,11	168:1,13 169:3
204:2,4,11,22	8:22 9:1,16	89:25 90:10	173:11 174:8
205:7,14,19	10:6 11:12,18	91:5,25 93:10	174:19 177:13
206:4	12:12,16,25	93:12 94:19,21	179:10,13
restitutions	13:13,25 14:5	95:6,21 98:7	180:18 181:21
22:15 23:25	14:14 16:18	98:23 99:6,11	182:23 183:23
154:21 204:5	18:1,22 22:8	99:11 101:19	184:17 185:12
restroom	23:14,19 25:8	101:25 103:19	186:13 188:8
113:14	25:25 30:20	104:1,15	189:10,23
result 21:25	32:16,22 35:24	106:15 107:7	190:9 192:20
170:25 183:21	40:19,23 42:7	108:7,14	192:24 197:2
214:22,22	43:6,6,25 46:9	109:20,22	199:20 200:2
232:9	46:21 47:14,23	110:1,7,14	202:17 203:3
results 115:10	48:10,13 49:2	111:1,5,15	203:15 204:14
115:12,14	49:24 50:5,17	112:11 114:6	207:4,19 208:5
170:12	50:21,24 51:17	115:3,7 116:8	209:1,6,7
retained 46:13	52:24 53:9	117:1,8,13,17	212:24 213:13
46:15 47:24	54:18 55:9,15	117:25 118:18	213:16 216:21
51:20	55:18 56:4	118:20,23	219:6,24 220:6
retainer 50:18	57:15,21 58:19	119:4,19	220:15 221:21
retrieval 107:5	61:6 62:4,20	125:14,21	222:16 223:10
returned	64:1,12 65:14	126:4,22 128:7	224:21 225:19
237:11,14	65:19 66:4,11	128:12 129:15	226:17 227:8
revealed 105:7	67:8,13 68:7	129:18,24	227:19 228:2
105:18	69:25 70:8,11	130:1,7 131:25	231:24 233:3,6
review 66:18	71:4,5,8,13,14	135:11,15	237:6
234:2 237:6	71:17 72:1,5	137:20 138:24	**rim** 88:8 184:9
reviewed 54:7	74:9,22 75:11	139:23 142:23	**ripped** 79:3
166:2 167:10	75:18,19,20	145:20 148:21	**rise** 124:1
reviewing	77:20 79:15,22	148:23 149:4	**road** 2:15
74:11	80:1,1,13,15	149:23,23	**roadway** 23:13
richard 2:12	81:8,11,25	150:20,22	190:15,22
rick 4:11,18 5:6	82:1,4,9,16,24	151:3,5 154:10	**robust** 27:5
70:12 105:10	84:5 85:15,21	155:6,20	28:7 114:19

G. Bryant Buchner , P.E.   January 23, 2024
Bryson, Santana and Joshua v. Rough Country, LLC

[robust - seat]   Page 48

163:18
robustness
  41:21
role 47:3
  123:14 126:20
  181:3,6
roof 146:16,19
  221:16,16
roswell 237:18
rotate 147:10
  147:11 162:25
rotated 103:3
rotation 21:5
  82:7,8
rough 1:9 3:8
  10:12 57:19,23
  59:1
rpr 1:23
rsa 1:23
rule 238:8
rulers 100:25
rules 234:4
  238:8
run 9:14,18
  15:20 16:12
  17:1 18:10
  19:9 20:22
  21:1,17 22:20
  23:4 38:19
  40:6 45:20,22
  70:25 71:1,6
  71:23 72:2,7
  72:10,17 92:7
  125:1 159:7,13
  176:11 182:3

187:1 188:1
running 16:1
  16:20 155:3
runs 168:18
  218:11
rws 1:8

s

s 3:5 56:9 154:6
sae 152:6
  208:23 209:5
  210:21 229:25
safe 135:6
santana 1:4
  183:14
saved 6:10
  154:11
saw 64:11
  65:20 78:18
  79:18 83:13,22
  89:15 111:24
  224:4
saying 7:11,12
  9:12 33:21
  34:10 36:2
  39:10 42:3
  63:18 65:21
  82:24 88:23
  102:20 118:1
  124:5 126:17
  126:20 137:12
  139:15 144:8
  159:20,25
  160:1 163:4
  164:9,13,16
  171:23 179:17

186:5,7 187:23
  201:21 202:21
  204:8 205:14
  215:16 218:25
  220:2 225:4
  232:10
says 29:5 54:5
  71:7,19 164:4
  171:21 192:20
  202:2 213:25
scale 61:15,16
  82:6 88:2
scales 80:9,11
  80:15,19,24
  81:7 88:24
scan 60:6 69:13
  98:19 100:8,17
  194:9 202:2
scanned 66:1
  94:24 99:3
scanning 69:20
  194:4
scans 57:7
  60:24,25 61:3
  100:18,21
  101:16,16
  102:10 227:2
scenario
  197:25
scene 17:16,16
  17:17,18 19:2
  60:8,9,15 61:6
  61:7,10 69:1,5
  69:8,11,14,17
  76:6,6,11

83:20
schedule 3:17
  50:6,9 54:25
  55:7 81:21
scheduled
  68:18
scientific 166:4
  168:3
screen 10:7,13
  12:12,16 42:25
  68:2 71:15
  73:11 74:16,22
  149:4 183:19
  201:12,14
seal 237:12
searches 184:2
seat 62:1,5,8,15
  62:24 63:4,8
  65:24 84:4,20
  85:1,2,4,5,16
  85:17 102:18
  102:22,22,24
  102:25 103:1,2
  103:3,7,7
  133:18 135:12
  135:18,21
  136:1,4,13,24
  140:9,11,24
  141:6 142:2,7
  142:14,16,24
  142:24 143:3
  143:10,10,13
  143:20,20,22
  143:23 144:3,7
  144:19,19,21

G. Bryant Buchner , P.E.   January 23, 2024

Bryson, Santana and Joshua v. Rough Country, LLC

[seat - show]   Page 49

144:23 145:1,3	93:18 97:5	**send** 81:20	**severe** 197:11
146:1 147:14	104:20 105:1	237:12,17	**severity** 78:12
148:11 182:16	113:1 114:22	**sense** 12:7	**shape** 46:2
182:19,24	116:9 128:12	54:14 132:18	60:13,14 62:12
184:12,12	129:18 131:18	188:19	161:23 162:10
193:24 194:7	142:6 143:2	**sensing** 109:17	216:18 217:1
194:19,23	147:12 150:5	**sensitive**	**shapes** 218:9
seat's 143:6	150:17 151:3	232:22	**share** 10:7
seats 61:25	172:10,15	**sensors** 109:11	12:12 71:14
147:19 193:25	179:8 189:15	**sent** 75:8	103:13,15
second 3:9 10:9	196:23 201:3	192:16	150:25 201:12
35:15 74:21	204:25 214:14	**sentence**	**shared** 43:6
80:1 85:23	216:17,18	102:17 108:7	50:5,24
140:6 148:24	218:18 223:2,4	**sentences**	**sharing** 43:2
190:12 198:5	223:6 225:19	144:20	68:8 73:11
206:17 223:15	227:12 228:25	**separate**	103:12 149:4
225:22 232:6	229:25	116:22 213:9	151:1
section 77:21	**seeing** 107:19	**september** 3:15	**sheet** 67:2
90:10 93:17	**seem** 12:23	43:12 60:5	110:12 139:16
106:23 110:2	108:21	64:2,5 68:10	183:8,11,12
116:10,13,20	**seemed** 85:9	70:6 76:19	205:11 225:17
198:7,8 206:15	**seen** 9:9 65:16	**series** 111:23	238:17
sections 234:6	66:2 78:3	113:21	**shell** 162:19
234:7	115:16 196:11	**serve** 124:12,13	**shift** 87:21
see 5:8 9:19	196:22	**services** 61:22	231:18
10:13 12:16	**select** 16:16	234:16 236:13	**shifting** 67:24
16:4 17:13	99:10	**set** 15:25 51:22	**shiny** 106:17
19:18 23:18	**selected** 167:1	53:14 88:6,9	**shoes** 134:6,7
31:14,14,15,19	219:2	111:23 113:19	**shop** 134:25
33:25 52:5	**selection** 99:5	172:25 206:22	**short** 65:7
58:25 64:8	**self** 81:13	**setup** 51:13	115:25
66:8 71:14,18	**seminar** 15:3	53:10	**show** 15:24
76:11 77:8	**seminars** 14:25	**seven** 64:19,25	54:10 55:8
78:8 83:19	15:9	**several** 32:1	78:10 113:5
86:8 89:19			126:6 135:20

G. Bryant Buchner , P.E.   January 23, 2024
Bryson, Santana and Joshua v. Rough Country, LLC

[show - situations]   Page 50

135:20 136:11
147:6 194:5
217:7 225:22
231:4,8
showed 31:10
59:2
showing 51:7
103:20 118:20
126:5 149:5
shown 66:6
104:7,7 148:9
163:18 221:23
shows 89:4
112:24 139:16
side 45:21
47:12,20 104:9
131:9,10 135:1
179:23 186:13
186:13 187:10
187:24 188:4
192:21 206:25
sides 188:6
sign 237:6
signature
233:13 235:23
237:2,15
signed 237:9,11
237:14
significance
128:24
significant
79:10
similar 60:7
simon 42:11,14
42:19

simple 17:16
48:5 142:8
169:7
simplest 138:4
168:17 180:25
simplified
18:14 159:18
214:25
simply 9:21
108:8 143:16
simulate 18:4
18:11,15 26:6
28:22 31:7,8
39:2 163:20
167:23
simulated 39:5
176:11 213:7
simulates 32:24
simulating 9:17
18:18 20:17
166:5
simulation 10:4
16:13 17:1
19:9,25 20:22
27:5,16,19
31:5 32:19
35:25 37:19
39:11 40:18
66:25 67:7
70:24 71:6,10
72:2 104:12
114:7 115:9
116:20 128:5
152:10 153:19
153:23 154:4

155:13 159:14
161:2 163:17
163:25 164:16
167:19 173:3
173:25 175:17
176:6,7,9
181:22 184:24
187:25 190:15
190:23 191:9
191:22 202:20
202:22,22
203:15,23,24
209:13,16,24
210:19 213:7
218:6 219:23
219:24 220:6
229:25 231:16
231:17,25
232:4,7,19
simulations
15:21 68:24
115:19 153:14
154:10 172:4
172:22 175:3
202:15,17
simulator
67:14 116:21
154:22 158:21
single 41:2,6
sir 7:23 12:17
14:13 42:20
50:16 54:1
67:15 70:7
71:3,12 72:4
74:8 79:25

87:25 92:11
93:15 95:5
98:18 110:6
112:10 121:5
137:19 151:4
171:8 177:16
177:16 179:12
183:21 184:17
185:11 188:2
193:10 197:5
199:18 208:7
220:5 232:2
sit 16:2 44:10
44:17 55:6
149:3 165:6
166:25 167:9
194:11 196:8
197:4
site 76:5
sitting 44:15
88:14 136:19
136:25 143:19
143:22 147:12
169:8 182:20
200:16 218:3
situation 21:21
30:24 31:1,4
34:11,13 40:11
121:9 125:18
135:10 161:15
164:22 167:19
167:24 197:3
situations 42:5
46:7 94:8
165:1,2

G. Bryant Buchner , P.E.   January 23, 2024
Bryson, Santana and Joshua v. Rough Country, LLC

[six - spring]   Page 51

six 139:2
size 16:18
  17:22 58:17
  86:22 96:17,24
  98:22 99:11
  100:23 102:9
  140:1 202:5,6
  202:16,18,19
  202:23 225:2
  227:18,24
sizes 97:22
skipped 94:19
sky 123:1 126:9
slant 228:21
slide 86:11
  123:21 146:10
  222:5
slight 99:13
  101:12
slightly 24:7
  77:24 78:1
  94:4 96:10
  98:1,5 101:5
  119:2 228:22
slopes 17:18
slow 113:11
  192:4
slowing 91:19
small 15:17
  67:8 170:21
smart 31:5
snyder 2:6
society 208:23
soft 92:3,7

software 8:6
  13:16 22:16
  42:12,22
  209:16 213:10
  213:11,13
solely 110:2
  221:19,20
  234:14
solve 112:20
somebody
  54:21 134:6
  186:7
somebody's
  9:23
somewhat 35:3
  178:20
sophisticated
  157:11 210:18
sorry 4:16 12:4
  12:10 18:23
  20:19 35:24
  37:11 43:2
  62:17 63:17
  103:16 105:11
  137:21 142:9
  151:1 167:5
  171:2 177:19
  191:6,8 192:2
  202:10 206:16
  208:11 220:4
sort 19:4 83:19
  141:22
sound 70:4
  101:20

sounds 166:7
source 109:18
  119:15 130:3
  130:13
sources 131:4
  167:11 188:13
  188:17
southeast
  237:19
space 135:24
  136:24 195:1,8
  195:12,14,23
  196:17 223:1
spacers 229:6
spare 87:14,22
  88:8 184:9
speaker 105:12
speaking 45:15
  88:21 150:11
  189:10
specific 42:18
  44:11 55:5
  77:13 93:19,25
  106:12 129:2
  146:2,20
  179:23 193:15
  196:21 197:3
  197:21,25
  203:19 234:18
  236:12
specifically
  22:2 44:13
  45:9 48:10
  165:2 199:12
  229:5 234:4

specifications
  53:14
specifics 198:4
specs 95:11
  101:24 128:15
  181:16
speed 17:8
  19:15 20:15
  22:4,5,6 25:14
  25:16 68:17
  76:4 108:15,16
  108:20,20,21
  108:22,23
  109:4,6,7,14,17
  109:19,21
  111:6,11 155:5
  155:5,21
  169:20 193:2
  196:15 197:10
speedometer
  109:4
speeds 16:23
  19:18,19,23,23
  20:1,24,25
  110:24 155:11
  176:16 186:16
  193:5 196:6,10
spent 67:6,14
spit 104:18
split 48:20
spoke 4:14
  20:19
spreads 156:18
spring 24:11,16
  160:6 185:20

800.808.4958   770.343.9696

G. Bryant Buchner , P.E.   January 23, 2024
Bryson, Santana and Joshua v. Rough Country, LLC

[spring - stopping]   Page 52

185:21,22
springiness
  178:24
springs 24:15
sprung 146:6
  185:25 186:3,4
  186:9
staff 14:19
  15:22,23 41:13
  52:20,23 55:2
  72:25 127:18
staging 230:19
stamped
  129:19
stamping 68:17
stand 148:24
  165:8 223:12
standard 41:5
  81:9 95:15
  132:25 134:3
  152:12 157:22
  175:18,20
  199:9,10,11
  206:22 210:16
  211:13,14
standardized
  189:4
standardly
  156:11
standards
  141:4
standing
  148:25
standpoint
  96:4 219:20

229:18
start 5:10
  10:12 16:16,19
  17:6 29:16
  70:22 94:22
  176:12 197:1
  207:9
started 143:10
  143:10 153:25
  193:8 218:1
  220:12
starting 26:14
  71:11 219:11
starts 105:5
  117:17 175:21
state 234:9
  235:4
stated 37:25
  38:1 235:8
statement
  133:11 145:12
  195:3 197:19
  238:12
statements
  235:11
states 1:1
static 94:25
  105:24,25
  106:5,22
  133:21 140:17
  146:5,14,22,25
  147:17,24
  148:19 152:8,9
statically 143:8
  144:17 147:4

statute 198:24
  199:16
statute's
  199:14
stay 14:18 36:9
  68:16 122:9
  166:10
stayed 14:23
stenographic...
  235:7
step 19:4
stick 24:12
  219:9,19
sticking 149:19
sticks 218:10
stiffer 232:9
stiffness 130:4
  130:10,11,14
  130:19 131:8
  131:10,11,11
  131:13,17
  132:9 133:19
  134:12 155:18
  156:10 158:16
  159:11 176:3
  177:3 178:13
  178:17,25
  179:18,22
  180:3,20 187:3
  187:5,7,9
  188:6,13,21
  189:24 206:8
  206:18,25
  207:12 208:1
  208:19 209:12

209:22,24
  210:5 229:24
  230:4,11
  231:16
stiffnesses
  130:25
stimulate 37:8
stimulator
  155:4
stock 3:23
  27:17 36:9
  37:19,23 39:17
  40:6,18,21,24
  86:2,10 87:3
  96:2,17 97:19
  97:25 98:2,4,8
  98:24 99:14
  116:15,24
  117:22 118:4
  120:16,16,18
  123:10 124:18
  125:1,13,15
  126:2,18 137:1
  137:14,17
  138:19 140:1,3
  148:17 153:20
  161:2,5 168:15
  181:13 202:3
  202:18 227:16
  227:20
stop 121:23
stopped 127:3
  168:18
stopping 173:9

G. Bryant Buchner , P.E.   January 23, 2024
Bryson, Santana and Joshua v. Rough Country, LLC

[storage - sure]   Page 53

storage 183:24	165:23 166:4	**sufficient** 30:18	44:17,22 45:8
184:1,4	**stuff** 11:11	**suggested**	45:9 46:4 49:2
straight 29:19	15:24 60:2	212:1	49:23 50:20
208:3	61:1,23 75:25	**suite** 2:8,16	54:14 55:14
straightened	163:11 170:2	237:18	56:8 59:7 60:3
12:9	180:25	**summary**	60:12 63:3,9
straightforward	**style** 49:13	225:15	64:15 69:18
15:4 148:7	**subcontractor**	**supervision**	73:10,17 75:17
166:19 210:16	234:10,15	235:13	75:18 76:13,14
strange 124:14	**subject** 37:21	**supplemental**	78:20 79:17
strength	62:25 86:13	238:15	80:17 81:3
133:13,19	87:24 97:16,18	**supply** 97:6	84:17 85:22
134:23 135:25	100:9,10	**support** 3:21	87:1,10,12,23
136:3 156:24	110:10 125:9	40:10 41:9	88:20 89:23
169:12,14,15	125:16 138:1	74:24 75:8,16	90:9,21 91:5,8
177:6,8,9	171:11 202:7	75:17 78:21	91:21 92:20
178:18,24	202:24 203:6	149:12,16,16	94:5,16,18
179:1 207:7	216:14 222:14	153:12 166:3	95:5,18,20
strike 28:2	224:19	167:1,11 168:2	98:7 101:21
striking 218:7	**subjects** 200:14	168:3 200:9	103:10 108:3,6
strong 136:13	**submitted** 3:6	201:16,19,23	110:7 113:1,16
stronger	234:21,22	213:6	116:12 122:19
219:16,16	236:5,6	**supposed** 73:3	123:11 125:5
struck 204:20	**subscribe**	84:14 86:23	126:22 134:9
218:7	200:22	91:15	134:23 145:21
structure 26:22	**subscribed**	**sure** 6:2 8:19	149:18 152:5
28:3,3 34:21	239:21	9:14 10:1	154:20 164:15
36:15,18	**substance**	11:23 13:4	167:7 172:2
structures 35:3	238:10	14:11 15:5	175:1 178:4
149:13,16	**substracting**	18:24 20:21	191:12 197:9
157:17	225:10	22:14 24:19	199:21 201:1
stuck 222:1	**subtle** 21:12	26:5 27:3	201:17 210:7
studies 166:2	**subtract**	28:23 31:6	211:16 223:11
study 95:22	139:22,25	40:9 41:12	229:22 230:6
121:3 161:16		42:10,25 43:22	

G. Bryant Buchner , P.E.   January 23, 2024
Bryson, Santana and Joshua v. Rough Country, LLC

[surface - tell]   Page 54

surface 156:14	67:19,21 68:7	91:3,17 96:13	**targets** 193:6
surfaces 157:5	70:9 82:6 90:7	96:14 98:8	**teaches** 168:24
surprise 174:24	113:12 115:24	106:24 108:23	**team** 193:24
surprised	131:14 134:6	109:5,8 110:2	194:18
166:16	138:8,11	117:14 119:1	**technical** 52:22
surrounding	139:24 146:9	123:5 125:11	**technically**
14:7	146:25 156:15	129:14,22	91:15 132:3
survivability	159:1 160:23	131:8 136:23	214:15,19
135:23	173:10,11,15	141:3 145:17	219:8
surviving 1:5	183:2 189:20	148:19 153:7	**technician** 2:20
suspect 26:14	199:20 200:25	153:15 155:16	4:4,20 11:20
28:9,17 33:16	226:1 227:14	178:25 179:1	11:24 12:2
37:9 229:9,12	**taken** 28:21	185:3 194:1	70:13,16 99:21
sv 28:1	60:24 70:15	196:3 203:21	99:24 100:2
swapping 72:8	116:4 149:7	203:22 204:9	113:20 116:2,5
swear 4:21	173:19 201:7	212:6	173:17,20
sworn 5:2	227:17	**talks** 41:21,22	201:5,8 223:16
235:9 239:21	**takes** 154:3	**tall** 134:6	223:19 233:9
system 6:22	207:9	**tallahassee**	**technicians**
109:17	**talk** 14:21	1:15 4:1	101:15
	15:23 37:15	**taller** 97:2 98:1	**technique**
t	39:24 42:24	203:4	212:15,20,23
t 3:5 65:18	54:21 56:13	**tallies** 183:8	**techniques**
235:1,1	85:7 91:21	**tap** 135:1	212:16,20
tab 183:9	105:2 135:11	**tape** 102:6	**tecum** 3:11
table 138:9	198:3	106:17,20	**tedra** 2:4 4:12
tail 216:19	**talked** 153:8	227:9	4:16 178:10
tailgate 33:5	155:19 161:4	**tapes** 100:25	237:1,1
122:3 123:24	191:1 200:11	**target** 47:20	**telephone** 52:3
124:1 140:19	209:25	195:15	54:5,8
192:9 205:17	**talking** 31:11	**targeted**	**tell** 19:14,14,15
216:12,19	39:1,3 40:13	193:15,15,17	20:24 35:17,18
217:25	50:1 70:21	**targeting** 193:5	37:5 38:15
take 24:14	78:6 79:22	193:20	39:18 44:21
47:12 51:7	89:13 90:2		52:13 56:21
63:11,15,19			

G. Bryant Buchner , P.E.   January 23, 2024
Bryson, Santana and Joshua v. Rough Country, LLC

[tell - think]   Page 55

59:4 60:10
62:9,11 70:24
75:20 84:25
88:14 112:15
124:23 128:24
157:19 161:10
161:11 162:16
169:11,12
179:7 184:11
200:18 232:24
235:9
telling 8:12
21:19 101:10
158:11,12
162:8 182:6
tend 55:7,7
164:19 165:16
172:14
tends 164:20
term 80:16
89:19,20 90:15
90:16,19 94:2
94:5 109:15
136:17 150:14
174:3,18
terms 93:17
94:16 177:21
234:15
terrible 197:7
terry 230:6
231:2
test 8:21 18:10
19:18 62:13
171:6,10,20
172:4,13,20,23

172:25 173:1,4
188:20 189:19
207:21 230:19
testified 44:23
46:24 174:8
191:3
testify 27:19
testimony 3:14
11:2 43:7,16
43:20 46:22,22
47:2 50:2
85:13 165:10
200:4 235:15
238:3,11
testing 172:16
189:11,17,24
230:16
tests 189:21
thank 5:6,9
12:4 13:12
60:3 63:16,22
66:11 70:11,18
71:25 76:23
77:18 90:9
92:23 93:4
98:9 103:11
116:1 139:14
173:16,22
178:5,10
191:24 193:22
195:16,18
201:4,24
222:11 223:21
233:3

thanks 18:2
24:22 63:9
72:20 88:20
93:5 103:15
201:10
theory 229:15
thereto 235:11
thickness 232:8
thing 32:17
69:4 104:24
113:8 118:24
122:6 156:1
162:18 171:16
173:4,5 180:18
184:8 204:9,17
222:19 229:1
things 5:24 6:2
7:9 16:15
17:19,24 24:19
29:10,10 35:18
35:20 51:11
57:8 64:24
68:17 82:19
90:2 93:9,13
100:16 109:11
120:15 121:12
122:17 130:20
137:7,9 146:12
149:18 159:17
162:1 165:17
168:12 171:24
175:12 177:23
186:15,25
think 5:7 14:2
14:3,24 18:13

18:14 19:11
20:19 21:17
22:20 24:24
27:11,21 29:13
32:9 33:11,12
33:14 34:6,21
35:10,22 41:24
42:16 43:12
44:20 48:21
49:3,3,4,7,16
49:19 57:1,21
58:3 63:23
64:17 66:4,6
68:18 69:21,21
73:12 75:4
81:1 87:15,16
87:16 90:24
91:1 93:2
95:13 97:15
99:9 101:3,8
107:24 109:1,2
112:4,21
122:18 132:3
137:11 138:5,8
142:16 143:2
144:8,12,12
145:4,7,7
147:1 154:5
158:11 160:11
174:2 177:18
177:19,23
179:5 183:9
185:21 188:12
194:2,4,15,15
194:17,21,25

G. Bryant Buchner , P.E.   January 23, 2024
Bryson, Santana and Joshua v. Rough Country, LLC

[think - tool]   Page 56

195:4,7,7,11,24
196:12 198:13
201:15,22
202:10 205:13
208:15 215:14
221:13 222:5
225:5 228:25
230:9 231:4
233:5
thinking 44:16
77:8 134:21
154:7 196:8,13
200:17 229:7
thinks 108:24
124:3
third 13:14,15
171:4 206:16
206:17 225:22
226:21 227:12
228:4
thought 7:2
8:14 13:2
26:24 56:19
58:7 61:2
67:24 69:16
70:21 76:10
88:17 90:4
103:8 104:23
119:18 144:5
151:1 194:5
208:16 226:17
226:18
thousands
84:12

thread 78:17
three 9:13 48:8
48:11 49:3,19
49:20,21,22
109:16 122:16
151:21 152:21
152:21 188:6
threshold
196:15
throw 73:2
tight 32:14
170:25 211:1
time 4:6 6:16
7:10,10 9:14
11:24 12:2
14:16 16:6
34:16 43:3
44:4,8,23
45:16 46:20
53:18,19 54:15
55:1,7,14,20,20
55:24 57:11
58:7 59:25
64:10,14,16,21
65:5,12 66:9
67:2,6,13 68:2
69:2,7,10
70:13,16 73:7
75:21,21 78:15
78:18 80:21
82:2,12,21,25
83:4,18,23
84:2 93:14,21
94:6,7,7,10,13
94:14 99:24

100:2,3 113:20
116:2,5 141:18
148:6 163:6
164:2 171:20
173:17,20
182:5 189:6
201:5,8 202:24
223:16,19,22
233:10 234:19
236:12 237:14
times 5:7 17:4
17:18 29:15
68:19 163:22
167:18 224:10
225:12
tire 16:18 87:14
87:22 88:8
96:10,17 97:22
98:22 99:5,6,9
99:11 100:23
102:8 140:1,3
149:22 184:9
202:3,6,16,18
202:19,23
227:18,24
tires 80:14
85:25 86:1,2
86:10,10,20,21
86:22 87:3,6
96:5,24 97:1,7
97:9,13,17,25
98:6,23,23
99:14 138:10
138:11,16,19
140:4 149:19

203:5 218:4
224:7,18 225:1
226:1,13 228:5
title 75:16
209:3
today 5:18 13:1
13:10 44:10
68:15 82:1
166:25 167:10
197:4,6 200:5
223:22
today's 50:18
together 17:2
24:1,12 93:9
106:21 140:20
142:8,21
143:19 144:17
147:4 222:1
told 33:15
34:15 58:10
153:24 154:14
169:14 177:11
tonight 92:21
tonneau 89:10
89:14,18,18
92:25
took 61:3,13
69:21 83:16,16
tool 25:17
29:21 30:10,25
31:16,24 32:10
38:5 40:15
67:11 107:5
115:21 159:5
164:16 170:8

800.808.4958   770.343.9696

G. Bryant Buchner , P.E.
Bryson, Santana and Joshua v. Rough Country, LLC

January 23, 2024

[tool - trying]

Page 57

172:1 176:15
184:6
tools 29:11,22
31:17 39:19
40:4,20 116:22
164:1 183:25
184:3,4
top 44:7 49:1
61:16 67:15
70:3 81:6
85:24 86:6
103:1 104:6
122:12 136:18
145:25 148:16
179:7,8 196:1
196:3 206:16
217:10,17
232:24
topics 200:3
torn 26:20
36:22 78:23,24
79:4,12 150:3
total 24:1 67:9
70:3 82:11
129:10,21
185:19,24
224:6 225:4,6
226:7
totaling 69:25
totally 159:21
touch 106:4
touched 83:18
106:3 200:13
tough 21:10

tow 121:13,15
122:20 123:4
123:13,16
124:5,19
125:19,21
126:1,6,19
146:12 217:3
towards 173:13
182:22
traffic 41:16,17
training 13:8
13:16,19,21
14:1,7,9,15
15:6 41:25
42:18 121:4
152:6
transcript
234:19 235:7
236:3,4 237:7
237:12,14
238:3
transcripts
234:19,23
transmission
108:20,22
109:10,18
travel 56:16
64:16,20 66:10
69:5
traveled 56:20
tread 87:6
217:12
tree 171:15,16
trend 232:14
232:16,20,22

233:1
trial 11:1 43:16
43:20,24 44:2
165:3
trick 33:10
tricking 33:11
tried 48:5
167:17 191:12
tries 156:15
trim 96:13
trip 64:8
trips 68:25,25
truck 17:8,9
19:25 20:8
23:6 25:15,15
25:22,23 26:4
26:16 27:10
33:15,25 36:9
38:6 57:3 58:3
86:17,19 89:2
91:18 96:8,10
96:12,14,15,23
97:1,4,16,18,21
97:25 98:2,5
108:24 109:14
114:13 115:15
120:16 121:13
121:14 122:14
123:10,10,25
125:15,16
126:8 127:3
128:19 136:20
136:20 138:5
138:17 140:18
140:21,25

143:11,18,21
146:10,18,23
147:3,5 156:21
168:18 169:19
187:17 191:14
202:18 215:25
216:1,2,3
217:14,15
222:20
truck's 104:8
217:11
trucks 80:10
97:13
true 227:20
231:15 232:15
233:1 234:20
235:13 236:4,6
trunk 148:11
trust 72:25
truth 235:9,9
235:10
try 9:24 14:18
18:4,11,22
24:13,20 27:22
31:8 33:16
93:9 116:23
137:8 145:15
151:9 158:22
158:23 162:1
165:22 166:10
178:5
trying 9:18
13:10 17:14
26:15 27:1
28:15 36:5

G. Bryant Buchner , P.E.   January 23, 2024
Bryson, Santana and Joshua v. Rough Country, LLC

[trying - understand]   Page 58

37:14 38:24	**tweak** 21:24	211:7,18 212:6	**undamaged**
39:21,23 45:1	**tweaking** 22:23	212:8 213:18	222:13,15,20
54:12 63:10	**twist** 39:14	227:3	222:25 223:3
68:16 83:15,24	**twisted** 162:17	**type** 15:6 16:12	**under** 7:8 39:3
86:16,18 87:1	162:24 163:4	34:13 40:11,16	40:17 76:16
90:2 91:19	**twisting** 145:8	52:20 56:10	77:20,22 78:7
99:15 103:16	162:5,11,12	61:1,22 110:21	80:2 90:10
113:7,9 119:25	163:10	118:19,20	106:23 110:1
120:6,7 132:17	**two** 16:21	120:7 128:9	120:17 121:17
136:22 140:12	23:21 25:12	133:1 151:17	135:9 137:22
144:4 145:22	26:13 27:24	159:10,13	208:1 226:24
146:4 148:23	28:1 29:3,3	**types** 11:3	229:25 235:12
155:3,6 157:4	41:12 53:23	**typewriting**	236:11
159:16 160:22	55:16,17 57:21	235:12	**underneath**
161:6,7 165:23	67:3 71:23	**typical** 129:12	86:17 121:25
174:22 180:23	72:2,3,4 73:8	**typically**	122:1 123:15
186:18,19	76:18 91:3	131:12 176:12	123:19,21
193:18 196:20	94:19 97:13,22	**typo** 74:5,7	124:10 126:7
204:2 209:21	100:6,16	76:21 77:16	**underreport**
210:14,15,18	102:13 103:23	91:23 107:15	231:13
215:15 219:21	106:8 114:10	107:25	**underride**
tune 17:25	114:15 116:22	**typos** 76:15	161:10
32:24,25 191:9	120:25 130:20	**u**	**undersigned**
tuned 23:7	131:3 137:9		238:2
180:16,18	140:20 141:2	**u3000-49** 92:12	**understand**
tuning 17:11	146:17,20	**ultimately**	6:21 7:14 8:20
23:4 32:19,23	147:24 149:18	189:19 207:16	10:24 16:11,11
176:17,18,21	149:23 151:21	**uncertainty**	19:11 22:14
193:12	151:22,25	28:15	23:10,17 36:2
turn 32:2 55:18	152:2 169:11	**unclear** 167:14	48:7 49:22
157:6 175:10	169:13 170:17	**uncover** 194:18	63:15 72:19
turned 60:18	170:25 175:7	**uncrushable**	85:11 87:1
103:15	180:21 186:20	135:6	90:20,25 91:18
turning 85:21	204:5 205:3	**uncrushed**	95:3 101:21
108:25 109:1,3	207:6 210:1	140:23 222:4,7	108:6 112:17

G. Bryant Buchner , P.E.
January 23, 2024
Bryson, Santana and Joshua v. Rough Country, LLC

[understand - uses]

Page 59

Veritext Legal Solutions

G. Bryant Buchner , P.E.   January 23, 2024
Bryson, Santana and Joshua v. Rough Country, LLC

[uses - vehicle]   Page 60

157:2 177:15
188:20 218:8
using 9:21
13:22 14:24
15:2,16 16:5
18:18 19:7
26:6,8 27:17
28:1 39:1
40:18 42:20
61:12 69:22
70:25 80:21
82:3 90:22
94:3 95:10
100:8,10
101:14,24
113:22 114:4
114:15,17
118:8,10,15
121:3,3 126:24
128:5 131:24
132:13 136:1
141:3 142:14
143:4 147:16
147:25 153:13
154:8 157:15
159:3,5,14
160:9,10
162:14 165:13
165:13 166:4
166:10,22
167:12 169:6
170:4,25 176:9
176:20 190:8
191:10 206:8
210:17 211:18

221:24
usually 47:8
157:24 164:9
164:10

v

v 17:9 22:6
25:15 90:12,16
90:16,18,20,22
91:7,7,9
108:12 110:22
110:24 111:14
111:18 115:2
155:24 174:21
v1 205:22
vac 134:25
vacuum 82:19
84:4
vagaries
170:14
vague 134:17
167:14 197:15
200:7 203:17
valid 27:21
30:25 200:21
validate 41:10
62:24
validated 63:1
validating
160:13 161:23
value 86:21
119:18,20
120:13 151:10
151:11 175:1,4
175:9,10,11,14
175:15,16,18

175:20 176:11
176:12 177:12
180:10 190:18
204:8,12,15
205:7,14,17,19
207:15 208:5,5
212:11 214:20
220:16 229:25
232:8,11
values 25:12
108:9 130:12
156:17,24
174:9 187:15
188:21 193:2
193:16 206:3
206:17 207:18
208:18 209:19
210:4,15,21,24
211:19 213:22
226:23 231:3,4
231:9,12 232:1
232:25
variability
86:24 88:15
101:12
variables
170:12,15
171:11,11,19
variation 158:3
194:10
variations
193:12
various 7:17
230:12

vary 155:22
varying 99:2
vast 16:7
230:17
vectors 17:23
vehicle 3:23 9:7
9:19 16:16,17
21:13 27:1,2
33:8 34:22
36:7,7,12,12
44:6,9,12,24,25
45:20 56:4,7
56:17,25 58:1
58:12 60:6,9,9
60:13 65:16,25
77:3,5,10 78:5
78:6,6,14
79:21 83:2,18
84:9 86:3,13
88:7,9 90:4
92:6 95:13,16
95:18,21,22
96:4,17 98:23
98:25 99:2
105:6 108:16
110:8,10 117:3
118:4,16
121:18 125:15
127:16 130:22
131:9 133:13
134:23 136:7
138:1 142:5
150:12,19
152:25 155:15
156:15 157:17

G. Bryant Buchner , P.E.   January 23, 2024
Bryson, Santana and Joshua v. Rough Country, LLC

[vehicle - wall]   Page 61

159:12 160:7
162:5,10,20
163:5 168:15
169:9,13 175:5
175:5,5 177:14
178:18 181:4
183:4 185:14
185:15,24
186:9 187:11
192:17,18
193:23 195:12
195:13,15,21
196:1 198:12
198:16,25
202:24 203:6
206:9,25
207:10,13,24
208:21 213:20
214:4 215:2
216:14 218:3,6
218:7,9 221:12
222:4,6,7,9
225:5,24 228:8
228:21
vehicle's
162:10 169:8
vehicles 16:21
17:2,22 19:1
19:14,15,16
20:16 21:6
23:2,16,21
24:10 26:9
28:1,2 30:22
35:2 36:8
41:22 45:24

46:5 56:9 57:2
57:13 64:8,23
65:20 66:3,10
68:25 76:18
77:2 81:14
85:20 91:4
94:23 95:11
100:7 103:23
105:17 106:2,4
110:3 112:16
126:15 133:16
137:2,14,17
143:4 144:17
147:9 157:1
167:20,24
169:11,13
172:17 175:7,8
175:17 177:6,7
178:22 180:21
181:13 183:12
195:2,9,25
196:24 226:25
230:12
velocities
174:10,15
velocity 17:23
174:16,21
venn 212:16
verbatim
234:12
verified 95:9
100:6
verify 13:10
95:12

veritext 234:10
234:16 236:3,5
236:11 237:10
237:17
veritext.com
236:10 237:19
versa 231:23
version 6:4,22
6:24 12:21
18:14 72:23,25
73:2 74:2,4
82:10 97:20
124:18 125:13
179:3 202:23
versions 173:7
179:14
versus 46:14
86:10 97:20
106:5
vice 231:23
video 2:20 4:4
4:20 11:20,24
12:2 64:12
70:13,16 89:25
99:21,24 100:2
113:20 116:2,5
147:11 173:17
173:20 201:5,8
223:16,19
233:9
videotape 1:13
4:7 233:10
videotaped
3:10

view 186:6
221:8 222:18
vin 95:10,12,17
95:19,20
violated 198:24
199:3,9
virtual 2:20
56:4,7
virtually
157:13
visible 60:13
visit 69:5,13
76:5,11
visited 65:20
69:8,11
visual 56:23,24
57:1,4
visualization
21:18 214:24
218:17
visualize 21:15
221:2
visually 64:23
vitae 3:13
vital 53:13
vs 1:8 22:17
25:6,8 108:8
152:14,15

---

w

---

w 2:7
wait 173:9
waiting 63:22
200:17
wall 23:23

G. Bryant Buchner , P.E.   January 23, 2024
Bryson, Santana and Joshua v. Rough Country, LLC

[want - went]   Page 62

want 10:2 20:7
21:14,15,15
23:19 29:7
33:19 44:1
48:7 51:10
56:12 59:25
63:12 66:13
74:19 75:5
76:14 84:14
93:20 98:7
100:15 101:21
103:12 104:4
107:22 110:7
114:20,21
122:8 123:11
124:14 128:17
129:9,16 134:5
134:9 135:4
136:21 138:15
152:20 164:16
164:19 198:2
198:19 211:25
218:15 226:1
229:19
wanted 5:10
17:5 30:21
58:24 63:2
72:15 91:5
94:16 103:8
159:14 161:12
171:18 187:19
187:19,24
188:11 211:16
wanting 113:5

wants 8:9
24:16 34:5
91:14 137:7
154:12,18
159:24 163:13
187:16
waste 59:25
watch 77:18
way 8:13 13:15
13:15 15:13
21:11 25:3,7
26:18,19,20,20
27:5,22 32:22
32:25 34:10,14
35:22 40:9
41:8 44:25
47:8 51:23,25
53:4 56:15,16
64:20 67:5
79:7 84:19
88:2,9 91:2,20
94:12 95:15
96:20 100:7
101:1,1 102:9
104:14 112:22
116:16 124:6
125:15 134:4
134:11 135:2
145:8 154:11
157:15 160:2,5
171:14 178:21
181:10 186:6,7
194:13 196:1
196:17 198:2
207:7 210:25

211:9,14 212:3
212:11 213:24
214:1,6,14
229:12
ways 37:5
89:20 100:21
101:2 102:15
116:22 134:3
160:15 172:24
186:11,20
211:25 217:24
we've 5:7 38:21
47:16 67:19
80:20,21 92:22
99:18 106:6
147:8 153:8
155:19 194:21
196:11 200:11
201:15 203:14
209:25 213:2
week 9:4,4 72:4
81:10
weekend 6:14
6:14 7:13 9:6
192:16
weigh 83:17
weighed 82:25
83:2,5,14
87:15 88:24
89:3 93:1,3
110:15
weighing 87:20
weight 80:3,7
82:9,12,14,20
84:5 87:13

88:7,21,22
89:17 110:8
127:20,24,25
128:2,21
151:12 152:16
182:17,22,24
183:11,12,13
183:14,14
184:5,9,20
185:14,24
weights 80:12
87:21 90:4
110:12 113:24
151:12 181:16
181:18 183:3
183:10,12,23
183:24,25
185:13,19
186:17
weinberg 2:13
welcome 224:1
welds 34:20
wells 26:19
went 14:4,8
15:3 34:19,19
62:10 65:15
69:17 71:21
72:10,12
121:13 127:4
140:10 142:5
142:18 181:10
217:15,15
229:4,19 232:9
232:13

G. Bryant Buchner , P.E.   January 23, 2024
Bryson, Santana and Joshua v. Rough Country, LLC

[whatnot - yeah]   Page 63

whatnot 152:16	**wooten** 47:25	**work's** 68:21	**wrote** 80:11
wheel 9:24,25	**word** 23:19	**worked** 23:25	91:20 154:7
80:15,19	89:9 93:6	44:11 48:14,22	**x**
108:19,21,23	97:20 118:20	52:12 53:1	**x** 3:1,5
109:6,7,14,20	157:10 176:8	55:14 124:4	**y**
182:21 184:15	199:6 203:5	**working** 15:16	**yeah** 5:25 7:3,5
wheeler 2:13	208:1 228:20	48:25 49:10,11	8:24 11:9
45:20,21,22	**words** 28:12	49:16,20 52:8	12:10 19:7
wheels 108:24	30:12 45:3	54:19 73:2	25:23 29:3
182:8,8	59:4 78:3 85:3	89:24	32:13 54:3
whoops 150:20	92:4 97:7	**works** 113:17	57:4,7,11
wide 217:13	115:16 123:23	156:8 170:7	58:16,18 65:4
wild 87:20	143:12 161:8	228:24	65:9 66:12,14
window 170:21	170:17 204:25	**world** 106:21	67:11,20 68:20
170:23	217:9 231:7	147:9 172:11	71:7 78:22,25
wires 177:20	**work** 7:9 10:10	**worlds** 73:9	79:20 80:18
withheld 11:4,9	22:9 24:13	**worried** 26:23	81:9 82:20,23
11:17	32:15 33:4	73:6,7	83:3,15 86:15
witness 4:1,21	38:23 39:5	**worry** 208:12	87:5 89:7,12
12:8 70:11	43:18,22,23	**worth** 186:11	91:13 93:11
99:20 113:16	46:13 47:7	**wreck** 167:25	97:11,15 98:13
113:18 116:1	50:14 51:1,10	**wrench** 31:25	98:15 104:16
173:8,14,16	53:10,10,12	32:3,4,5,10,13	104:20 105:11
201:3 208:15	54:16 55:21	35:7	106:7 107:15
223:24 233:8	56:2,5,13	**wrenches** 32:2	108:3 109:16
236:7	60:21,22 61:18	35:9	109:16,23
witnesses 12:5	67:9 68:9,14	**write** 91:2	110:15 111:18
234:22	69:17 72:24	144:20	112:13,25
wondered	76:17 80:10	**written** 37:1	113:7 119:22
94:15	81:24 92:22	93:15	120:14,15,22
wonderful	149:2 154:3,18	**wrong** 68:22	124:12 127:15
29:21	155:14 156:4	114:6 129:15	129:17 132:23
wondering	160:13,14	133:8 177:21	135:7,19,19
106:11	165:15 172:17	177:25 178:7	137:11,15
	194:8 211:4	191:24 224:23	

Veritext Legal Solutions

800.808.4958   770.343.9696

G. Bryant Buchner , P.E.   January 23, 2024
Bryson, Santana and Joshua v. Rough Country, LLC

[yeah - zoom]   Page 64

	z
138:10 139:3,7	
139:7,11,19	**zero** 94:6,7,10
140:15,17	94:13 111:6
148:6 150:1,11	213:22,25
153:16 154:2	214:15,20
161:7 171:9	**zoom** 56:10
174:4 175:24	235:8
176:5 177:5	
180:25 183:10	
191:8 192:1,3	
193:17 194:10	
195:17 205:23	
207:22 209:5	
215:8,10 217:5	
219:4,21 221:6	
221:7,10 222:3	
222:7 225:3,12	
225:13 228:3,4	
year 61:4 62:22	
95:21 97:12	
127:16 168:17	
179:6	
year's 96:23	
years 13:23,24	
14:12 15:2	
42:20 46:19	
80:22 150:6	
165:14,15	
166:20 170:3	
189:2 230:8	
yelled 190:5	
yep 30:15	
37:13	

Veritext Legal Solutions

Georgia Code

Title 9, Chapter 11

Article 5, Section 9-11-30

(e) Review by witness; changes; signing.

If requested by the deponent or a party before

completion of the deposition, the deponent shall

have 30 days after being notified by the officer

that the transcript or recording is available in

which to review the transcript or recording and, if

there are changes in form or substance, to sign a

statement reciting such changes and the reasons

given by the deponent for making them. The officer

shall indicate in the certificate prescribed by

paragraph (1) of subsection (f) of this Code

section whether any review was requested and, if

so, shall append any changes made by the deponent

during the period allowed. If the deposition is not

reviewed and signed by the witness within 30 days

of its submission to him or her, the officer shall

sign it and state on the record that the deposition

was not reviewed and signed by the deponent within

30 days. The deposition may then be used as fully

as though signed unless, on a motion to suppress

under paragraph (4) of subsection (d) of Code

Section 9-11-32, the court holds that the reasons

given for the refusal to sign require rejection of

the deposition in whole or in part.

DISCLAIMER: THE FOREGOING CIVIL PROCEDURE RULES

ARE PROVIDED FOR INFORMATIONAL PURPOSES ONLY.

THE ABOVE RULES ARE CURRENT AS OF APRIL 1,

2019. PLEASE REFER TO THE APPLICABLE STATE RULES

OF CIVIL PROCEDURE FOR UP-TO-DATE INFORMATION.

VERITEXT LEGAL SOLUTIONS

COMPANY CERTIFICATE AND DISCLOSURE STATEMENT

Veritext Legal Solutions represents that the

foregoing transcript is a true, correct and complete

transcript of the colloquies, questions and answers

as submitted by the court reporter. Veritext Legal

Solutions further represents that the attached

exhibits, if any, are true, correct and complete

documents as submitted by the court reporter and/or

attorneys in relation to this deposition and that

the documents were processed in accordance with

our litigation support and production standards.

Veritext Legal Solutions is committed to maintaining

the confidentiality of client and witness information,

in accordance with the regulations promulgated under

the Health Insurance Portability and Accountability

Act (HIPAA), as amended with respect to protected

health information and the Gramm-Leach-Bliley Act, as

amended, with respect to Personally Identifiable

Information (PII). Physical transcripts and exhibits

are managed under strict facility and personnel access

controls. Electronic files of documents are stored

in encrypted form and are transmitted in an encrypted

fashion to authenticated parties who are permitted to access the material. Our data is hosted in a Tier 4 SSAE 16 certified facility.

Veritext Legal Solutions complies with all federal and State regulations with respect to the provision of court reporting services, and maintains its neutrality and independence regardless of relationship or the financial outcome of any litigation. Veritext requires adherence to the foregoing professional and ethical standards from all of its subcontractors in their independent contractor agreements.

Inquiries about Veritext Legal Solutions' confidentiality and security policies and practices should be directed to Veritext's Client Services Associates indicated on the cover of this document or at www.veritext.com.